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MECHANICAL  
RUBBER  
GOODS

Copyright 1919, by  
New York Belting and Packing Company

# NEW YORK BELTING & PACKING COMPANY



NEW YORK, 91-93 CHAMBERS STREET  
BOSTON, 65 PEARL STREET  
CHICAGO, 124-126 WEST LAKE STREET  
PHILADELPHIA, 821-823 ARCH STREET  
PITTSBURGH, 420 FIRST AVENUE  
ST. LOUIS, 218-220 CHESTNUT STREET  
SAN FRANCISCO, 519 MISSION STREET

NEW YORK  
BELTING  
& PACKING  
CO.



Plant of the New York Belting & Packing Co., Passaic, N. J.





## **To Buyers of Mechanical Rubber Goods**

**T**HIS General Catalogue contains useful and valuable information; describes the different lines of goods; names prices of same and gives much information in regard to their uses; it is arranged so that items can easily be located and in a convenient form.

The Catalogue refers to the product of the oldest and largest manufacturer of mechanical rubber goods in this country, its business having been established in Goodyear's time, and has through different processes, both as to manufacture and material, continued to be a standard throughout the world.

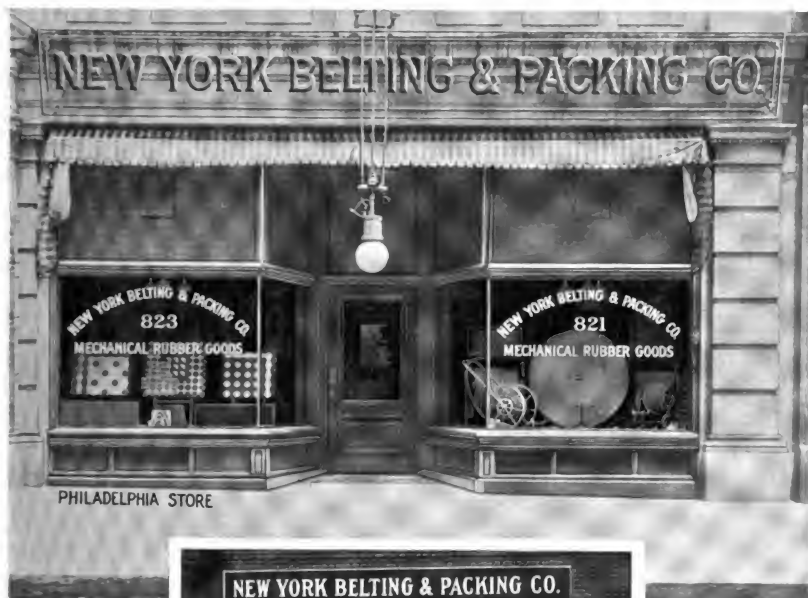
**NEW YORK BELTING & PACKING CO.**

New York, January, 1914

Revised July, 1919

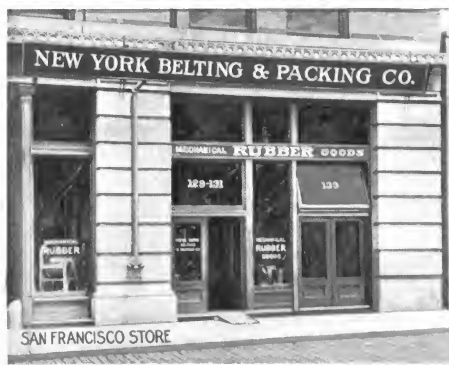


Interior View of New York Store





SPOKANE STORE



SAN FRANCISCO STORE



PORTLAND STORE



CHICAGO STORE

## Brands

The trade-marks or brands used by an established firm are a guarantee of protection to the dealer as well as to the consumer.

Our reputation for high grade goods and square dealing has been maintained over a period of sixty years' progressive work, and our brand is placed on goods with the full knowledge that we must uphold that reputation. Each of our brands represents the highest standard of value in its respective class, and any material bearing our trade-mark which fails to give proper service will be made good.

Why run the risk of annoyance and expense caused by the use of poorly made material and inferior qualities, when the entire responsibility can be thrown on us by the use of goods bearing our trade-marks?

## Trade-Marks and Brands New York Belting & Packing Company

1846 Para	"H"	Saco
Aetna	Jubilee	Spider
Amazon	Indestructible	Salamanda
Afmic	Karbonite	S. S. S.
Baldric	"K"	Signet
B & P	Lenox	"T"
Carbon	"1890"	Test
Carboy	"9193"	Test Special
Comet	Magic	Triple Diamond
Czar	Multiplex	Triple Star
Cobbs	Nahma	Tuxedo
Delta	N. P. M.	Turxo
Dragon	Oil King	Turxotine
Double Diamond	Palisade	Vulcan
Dundee	Puritan	Volcano
Elevator	Pump King	"1849"
Firo	R. R. S.	"1912"
Graphon	Rexite	"7375"
Great Seal	Regular Stitched	"3738"
	Ruby	

## Special Booklets

**I**N this General Catalogue we aim to enumerate the principal goods which we manufacture, but the line is so very diversified that space will not permit of giving full details. We consequently issue Special Booklets devoted to certain classes of trade, which booklets describe those lines much more fully and completely.

Special Catalogues are issued on Test Special Rubber Belting, Interlocking Rubber Tiling, Conveyor and Elevator Belting, Goods for Engineers' Use, including our entire and complete line of Packings; Mats and Matting, Garden Hose and Continuous Length Hose; as well as a large variety of descriptive leaflets of certain staple lines. Any of these catalogues and booklets will be cheerfully furnished upon application.



One of the Engine Rooms at our Factory, Passaic, N. J.



Belt Press Room at our Factory, Passaic, N. J. Capacity, 100,000 Pounds of Rubber Belting Weekly





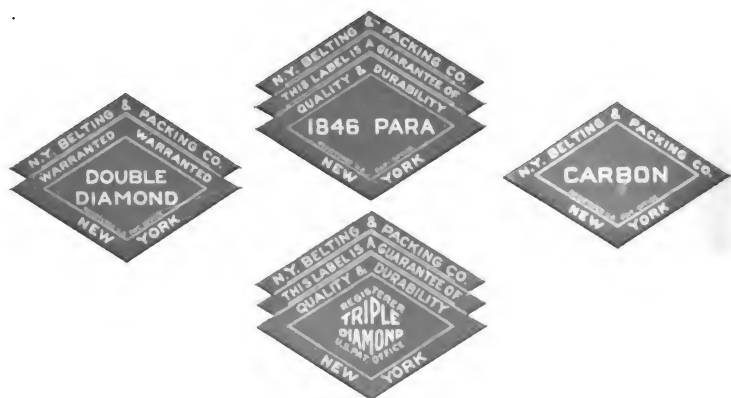
## Rubber Belting

The manufacture of rubber belting for the transmission of power is undoubtedly the most important branch of the rubber industry. Rubber belting possesses peculiar advantages of its own in addition to practically all the merits of other kinds of belting. The basis of its strength is in the cotton duck and the rubber friction used in uniting the plies of duck. If the cotton duck is lacking in the requisite strength, or its superfluous stretch has not been eliminated, or the friction is lacking in adhesion, the belt will be a failure. All cotton duck used by us is specially woven, and is most carefully inspected and tested to insure its being up to the required standard of strength. The rubber friction is compounded from high grade rubber, and is thoroughly and evenly driven into the duck from both sides by powerful rolls. In rubber-covered belts a cover of pure rubber sufficiently heavy to thoroughly protect the duck is then applied to the belt, and in friction surface belts the duck is thoroughly impregnated with rubber so as to make it water-proof. The belt then undergoes another severe stretching during which the vulcanizing process takes place between polished steel plates and under heavy hydraulic pressure. This stretching process during vulcanization sets the rubber and cotton duck thoroughly, and insures only sufficient stretch to the belt in service to give it the necessary elasticity.

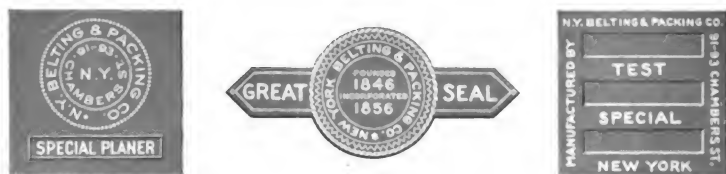
The various conditions of service requiring rubber belting demands special construction and qualities. We manufacture belting for all classes of service, not only for general power transmission, such as Main Engine Drives, Counter Shafting, High Speed Machinery, Saw and Paper Mill service, but for Elevators, Conveyors, Belts with reinforced covers, Bucket Belts, Vanner Belts, Belts for

Threshing and Brickmaking Machinery, and Rubber Belts for all exposed or outside work. Our line of belting is very extensive, including belts with rubber cover and friction covered belts, belts made with light weight cotton duck, and with the heaviest and strongest duck that has been found possible to utilize in belt construction. Space will not permit of more than a mere mention of each brand, but detailed information will be cheerfully furnished upon request, and the most suitable belt for your service recommended.

## Our Regular Brands of Belting



## Special Brands of Belting



Great Seal  
Special Seamless Stitched  
Special Planer  
Vulcan  
Baldric  
Gold Dredge  
"1856"

"3738"

"1890"  
"9193"  
Test Special  
Regular Stitched  
"1849"  
"1912"  
"7375"



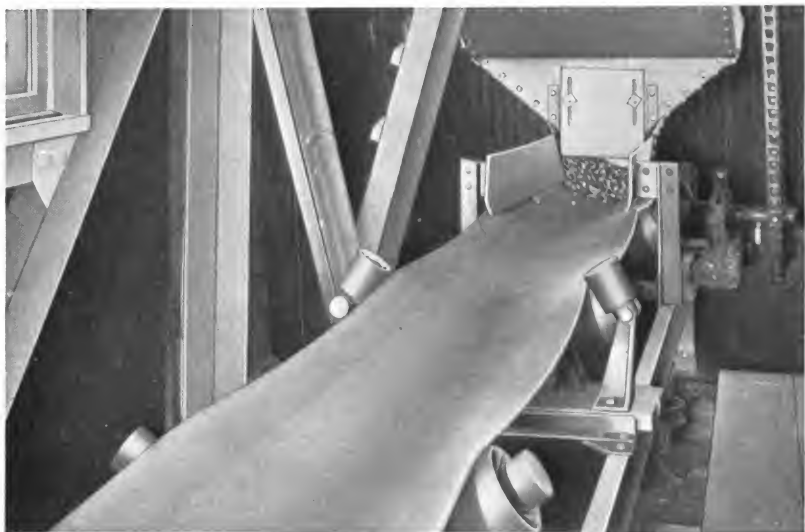
## Elevator Belting

We were the original manufacturers of rubber belt for elevating and conveying grain—work that is particularly trying on belting, requiring great strength and freedom from stretch. Some of the largest elevators in the country are equipped with our Elevator Belting. Manufactured of heavy cotton duck, with an especially strong rubber friction uniting the plies, and an extra thick cover on pulley side. Warranted to run perfectly smooth and true on the pulleys, and can be depended upon at all times to do the work required.



Belts punched accurately for buckets if desired. Estimate for Elevator Equipments cheerfully furnished.

Price List, page 18.



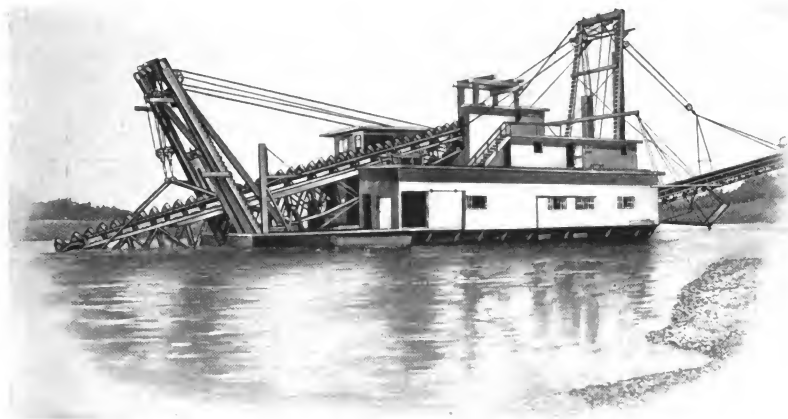
## Conveyor Belts

Our Conveyor Belts are made of extra heavy, selected cotton duck with reinforced cover on both sides, that on the pulley side not being so heavy as on the conveyor side. Cover on the conveyor side is furnished in any thickness desired, from 1-16 to  $\frac{1}{4}$  inch. These belts are designed for conveying all abrasive materials such as cement, ashes, coal, rock, coke, sand, gravel, ore, etc. The cover in each instance is especially compounded for the particular service it is to perform, and the edges of belt reinforced with an extra heavy layer of rubber, thus protecting the belt from wear at all points. The life of a conveyor belt is usually the life of the reinforced cover, hence great care is exercised in selecting and compounding the stocks for the covers, to see that the rubber is right for this work. Give us details of the character of the material to be handled

and we will cheerfully submit estimates. We guarantee maximum service per dollar invested.



Price List, page 18.



## Gold Dredge or Stacker Belts

Experience has clearly demonstrated the necessity of *quality* and most careful and painstaking workmanship in the makeup of Gold Dredge or Stacker Belts, one of, if not the most severe conditions of Conveyor Belt service. The wear on the reinforced cover, caused by the ore falling on the belt, is severe, and unless the stock is properly made to resist that wear the belt will be short lived. Our Stacker Belts are the result of years of experience and personal investigation in the field, and are guaranteed to give maximum service. Made in all standard sizes from 28 inches up, with straight reinforced cover or tapered cover.

Price List, page 18.



# Rubber Belting

## PRICE LIST

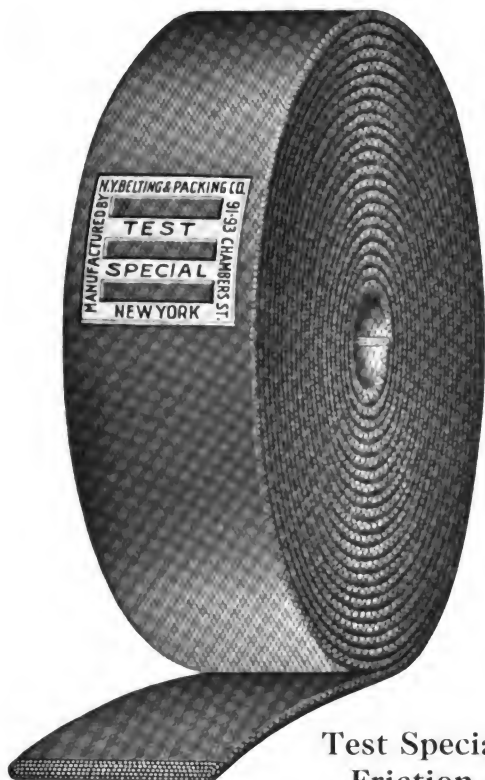
Effective July 1, 1918

Adopted by the Mechanical Rubber Goods Manufacturers' Division of The Rubber Association of America, Inc., May 21, 1918

Width Inches	2-ply per ft.	3-ply per ft.	4-ply per ft.	5-ply per ft.	6-ply per ft.	7-ply per ft.	8-ply per ft.	9-ply per ft.	10-ply per ft.	11-ply per ft.	12-ply per ft.
1	\$0.18	\$0.20	\$0.24								
1¼	.23	.26	.30								
1½	.27	.31	.36	\$0.45							
1¾	.32	.36	.42	.53							
2	.34	.39	.46	.58	\$0.69						
2½	.42	.48	.56	.70	.84						
3	.48	.55	.65	.81	.98						
3½	.57	.65	.76	.95	1.14						
4	.61	.70	.82	1.03	1.23	\$1.44					
4½		.78	.92	1.15	1.38	1.61					
5		.87	1.02	1.28	1.53	1.79					
6		1.04	1.22	1.53	1.83	2.14	\$2.44	\$2.75	\$3.06	\$3.36	\$3.66
7		1.22	1.43	1.79	2.15	2.50	2.86	3.22	3.58	3.94	4.30
8		1.31	1.54	1.93	2.31	2.70	3.08	3.47	3.86	4.24	4.62
9			1.73	2.16	2.60	3.03	3.46	3.89	4.32	4.76	5.20
10			1.92	2.40	2.88	3.36	3.84	4.32	4.80	5.28	5.76
11			2.11	2.64	3.17	3.69	4.22	4.75	5.28	5.81	6.34
12			2.30	2.88	3.45	4.03	4.60	5.18	5.76	6.33	6.90
13			2.50	3.13	3.75	4.38	5.00	5.63	6.26	6.88	7.50
14			2.69	3.36	4.04	4.71	5.38	6.05	6.72	7.40	8.08
15			2.88	3.60	4.32	5.04	5.76	6.48	7.20	7.92	8.64
16			3.08	3.86	4.62	5.40	6.16	6.94	7.72	8.48	9.24
18			3.46	4.32	5.20	6.06	6.92	7.78	8.64	9.52	10.40
20			3.84	4.80	5.76	6.72	7.68	8.64	9.60	10.56	11.52
22			4.22	5.28	6.34	7.38	8.44	9.50	10.56	11.62	12.68
24			4.60	5.76	6.90	8.06	9.20	10.36	11.52	12.66	13.80
26				6.26	7.50	8.76	10.00	11.26	12.52	13.76	15.00
28				6.72	8.08	9.42	10.76	12.10	13.44	14.80	16.16
30				7.20	8.64	10.08	11.52	12.96	14.40	15.84	17.28
32				7.72	9.24	10.80	12.32	13.88	15.44	16.96	18.48
34				8.18	9.82	11.46	13.08	14.72	16.36	18.00	19.64
36				8.64	10.40	12.12	13.84	15.56	17.28	19.04	20.80
38					10.96	12.78	14.60	16.42	18.24	20.08	21.92
40					11.52	13.44	15.36	17.28	19.20	21.12	23.04
42					12.10	14.10	16.12	18.14	20.16	22.18	24.20
44					12.68	14.76	16.88	19.00	21.12	23.24	25.36
46					13.24	15.44	17.64	19.86	22.08	24.28	26.48
48					13.80	16.12	18.40	20.72	23.04	25.32	27.60
50					14.40	16.82	19.20	21.62	24.04	26.42	28.80
52					15.00	17.52	20.00	22.52	25.04	27.52	30.00
54					15.58	18.18	20.76	23.36	25.96	28.56	31.16
56					16.16	18.84	21.52	24.20	26.88	29.60	32.32
58					16.72	19.50	22.28	25.06	27.84	30.64	33.44
60					17.28	20.16	23.04	25.92	28.80	31.68	34.56

All other widths at proportional prices.

Our belts are stamped every 30 feet with our name and brand.



### Test Special Belting Friction Surface

Any product that receives the endorsement of thousands of users and builds up a widespread reputation for its manufacturers, has certain distinguishing characteristics that set it apart and make it of particular value to its purchasers.

Test Special Rubber Belting has won first place in the estimation of the largest number of belting users by its possession of the following features:

Extreme flexibility, permitting the running over small pulleys at high speed, with greatest possible arc of contact.

Strong pulley grip, afforded by friction surface and the large arc of contact.

Dependable strength that delivers full power under peak loads.

The belt drive which is most satisfactory is that which will transmit the desired power at the lowest total cost. Among the items that make up the aggregate cost are: initial cost of the belt, cost of maintenance and repairs and the loss of production due to shutdowns. These are factors that influence the choice of a belt. In Test Special Belting you obtain strength, service and economy—strength to transmit maximum power, service that insures the continuous operation of your plant and true belting economy.

Test Special Rubber Belting was developed, primarily, in the lumber manufacturing field. The gruelling service required of belting for Saw Mills led to the development of the belt that successfully met the demands, such as high speeds, intermittent loads and severe climatic conditions.

Test Special Rubber Belting is foremost in the Paper Mill field where a belt with similar features is needed, that it will stand up in the presence of a great amount of moisture as well as measure up to other severe requirements.

It is designed for all drives and all power transmission purposes in textile mills, machine shops, cement plants, lumber and paper mills, cotton oil mills, sugar refineries, brick and clay plants, etc.

### **The Basis of Comparison**

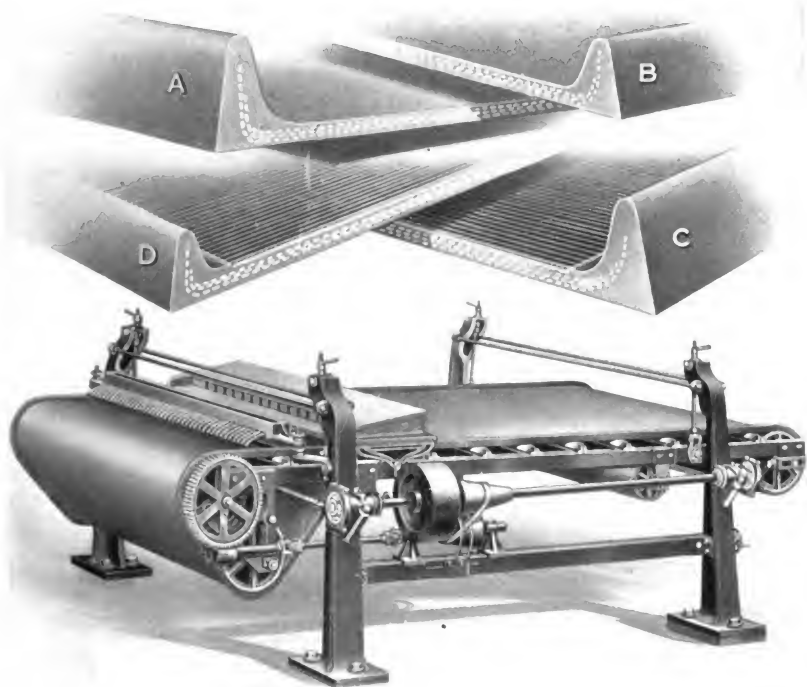
There is no such thing as competition, as it is usually understood, in the sale of Test Special Rubber Belting. The examination of samples of various makes of rubber belting, and the comparison of such elements as the weight of duck and the strength of friction, gives no real information on which to judge the length of service the belt will render.

Two samples, identical in all physical tests that are possible to make at the time of purchase, may so differ in their ingredients as to bear no resemblance whatever after six months' use.

The actual weight of duck and strength of friction are of much less importance than their character and quality. A rubber friction that shows up strong in a sample may not necessarily remain so under the stress of service.

As there can be no comparison of samples, so there can be no comparison of prices and the purchaser therefore must rely on the experience, skill and reputation of the manufacturer.





## Vanner Belts

Are moulded, the cover and edges being of very pure stock. The edges of our Vanner Belts are reinforced by continuous plies of cotton duck running from the body of the belt into the edges. This gives the edges the required rigidity to hold their shape when running over the pulleys, and at the same time does not detract from their flexibility; and cracking of the edges either at the base or top is avoided. The cover on the back is extra thick, thus precluding the possibility of grit, which must necessarily at times get on the pulley under the belt, wearing through to the cotton duck, and destroying the belt before it has given adequate service. Made in all standard sizes, either with smooth or corrugated surface.

Prices on application.

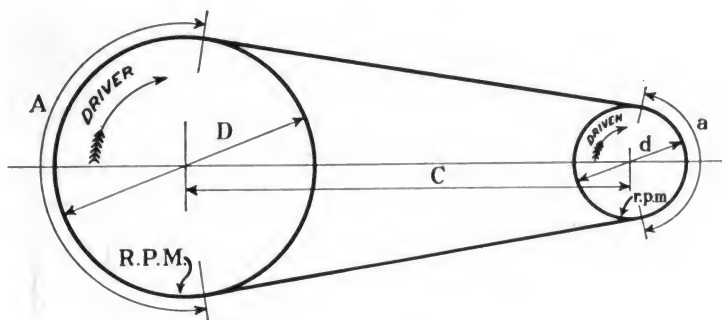
## **Mechanical Rules and Formulae**

The function of a belt drive is to transmit power from one pulley revolving at a given speed to another pulley revolving at the same, or a different speed. The power transmitted will depend upon the velocity of the belt, the tension under which it is placed on the pulleys, the arc of contact on the smaller pulley, and the local conditions under which the belt is used.

A belt can be made to transmit almost any amount of power desired up to the limit of its strength by increasing the tension under which it operates. These high belt tensions, however, result in high bearing and journal pressures, necessitating an increased expenditure of power to overcome friction, and resulting in high maintenance and repair charges, with frequent belt failures and short life of belts.

## **Horse Power of Rubber Belting**

For practically all conditions we use and recommend the following simple rules in the calculation of belt drives. With pulleys of ample size these rules are conservative and dependable for all but the most unusual service requirements.



- A** = Arc of contact driver pulley in degrees  
**a** = Arc of contact driven pulley in degrees  
**C** = Distance between pulley centers in inches  
**D** = Diameter of driver pulley in inches  
**d** = Diameter of driven pulley in inches  
**HP** = Horse power  
**L** = Length of the belt in inches  
**RPM** = Revolutions of driver per minute  
**rpm** = Revolutions of driven pulley per minute  
**V** = Velocity of belt in feet per minute  
**W** = Width of belt in inches

### Arc of Contact

For open belts the arc of contact on the small pulley is equal to

$$(1) \quad a = 180^\circ - \left( \frac{D-d}{2C} \right) \times 115$$

For open belts the arc of contact on the large pulley is equal to

$$(2) \quad A = 180^\circ + \left( \frac{D-d}{2C} \right) \times 115$$

### Horse Power

The horse power transmitted by a 4-ply rubber belt on pulleys of equal size or with  $180^\circ$  arc of contact is equal to

$$(3) \quad HP = \left( \frac{W \times V}{1000} \right)$$

### Velocity

The speed of a belt in feet per minute is its velocity and is equal to

$$(4) \quad \begin{aligned} V &= .2618 \times D \times \text{RPM} \\ V &= 2618 \times d \times \text{rpm} \end{aligned}$$

**Horse Power**

The horse power calculated from equation 3 should be multiplied by the following constants for belts heavier than 4 ply and for any arc of contact less than 180°.

**Table 1.****HORSE POWER CONSTANTS**

Arc of Contact on Pulley in Degrees	3 Ply	4 Ply	5 Ply	6 Ply	7 Ply	8 Ply	9 Ply	10 Ply
180	.80	1.00	1.20	1.40	1.60	1.80	2.00	2.20
170	.77	.97	1.16	1.35	1.55	1.74	1.94	2.13
160	.75	.94	1.12	1.31	1.50	1.69	1.88	2.06
150	.72	.90	1.08	1.26	1.44	1.62	1.80	1.98
140	.68	.86	1.03	1.20	1.37	1.55	1.72	1.89

**Width of Belting**

The width of belt to transmit a given horse-power speed of pulley being known is equal to

$$(5) \quad W = \left( \frac{1000 \times \text{HP}}{V} \right)$$

**Velocity Required**

The speed of belt necessary to transmit a given horse power, width of belt being known, is equal to

$$(6) \quad V = \left( \frac{1000 \times \text{HP}}{W} \right)$$

**Revolutions per Minute**

The revolutions per minute of a driven pulley, revolutions of driver and diameters of both pulleys being known, is equal to

$$(7) \quad \text{rpm} = \left( \frac{D \times \text{RPM}}{d} \right)$$

**Diameter of Driven Pulley**

The diameter of a pulley driven at a given number of revolutions per minute, the diameter and speed of the driver pulley being known is equal to

$$(8) \quad d = \left( \frac{D \times \text{RPM}}{\text{rpm}} \right)$$

**The Length of a Belt**

Given the diameter of pulleys and distance between centers:  
Square the distance between centers in inches.

Square the difference between the radii of pulleys in inches.

Extract the square root of the sum of above squares.

Multiply this by two and add one-half of the circumference of each pulley.

This rule is expressed by the following equation:

$$(9) \quad L = \left\{ 2\sqrt{C^2 + \left(\frac{D-d}{2}\right)^2} + 1.57 (D+d) \right\}$$

Result: Total length of belt in inches when on pulleys.

From this length subtract for stretch according to Table Number 9, on page 28. Unless net length is specified we always allow for stretch according to this table.

### Size of Pulleys

One of the most common causes of failure in belting is the use of small pulleys, which adds to the strain on the outer plies of the belt; and too narrow belts. Pulleys should, therefore, be as large in diameter as conditions will permit, thus increasing the arc of contact of the belt and easier transmission of power.

### Minimum Diameter of Pulleys

We recommend the following as the minimum diameter of pulleys for a given number of plies, but still larger pulleys will give better results and add greatly to the life of the belts.

**Table No. 2. MINIMUM DIAMETER OF PULLEYS**

Number of Plies	Minimum Diameter of Pulley in Inches	Number of Plies	Minimum Diameter of Pulley in Inches
3	6	7	20
4	8	8	24
5	12	9	32
6	16	10	40

Increase of power is preferably obtained by using large pulleys and wide belts, than by a great number of plies, as the thinner belts are more flexible and give a better contact on the pulleys.

### Width of Pulley

To prevent damaged edges we recommend the pulley width suitable for a given width of belt be determined from the following table:

**Table No. 3. WIDTH OF PULLEYS FOR RUBBER BELTS**

Width of Belt Inches	Width of Pulley Inches	Width of Belt Inches	Width of Pulley Inches	Width of Belt Inches	Width of Pulley Inches
1	1½	10	13	34	40
1¼	1¾	11	14	36	42
1½	2	12	15	38	46
1¾	2½	13	16	40	48
2	3	14	17	42	50
2½	3½	15	18	44	52
3	4	16	20	46	54
3½	4½	18	22	48	56
4	5	20	24	50	58
4½	6	22	26	52	60
5	7	24	28	54	64
6	8	26	32	56	66
7	9	28	34	58	70
8	10	30	36	60	72
9	12	32	38	..	..

**Metallic Belt Fasteners**

Some of the metallic belt fasteners can be safely used on rubber belts but we do not recommend their use at high speeds and over small pulleys nor on drives with idlers. It is absolutely necessary to cut square ends to the belt before applying so that there will be an equal strain throughout the width of the belt. They should not be used on Test Special Belting which is crossed or runs at a quarter turn as there is a possibility of great damage to the belt.

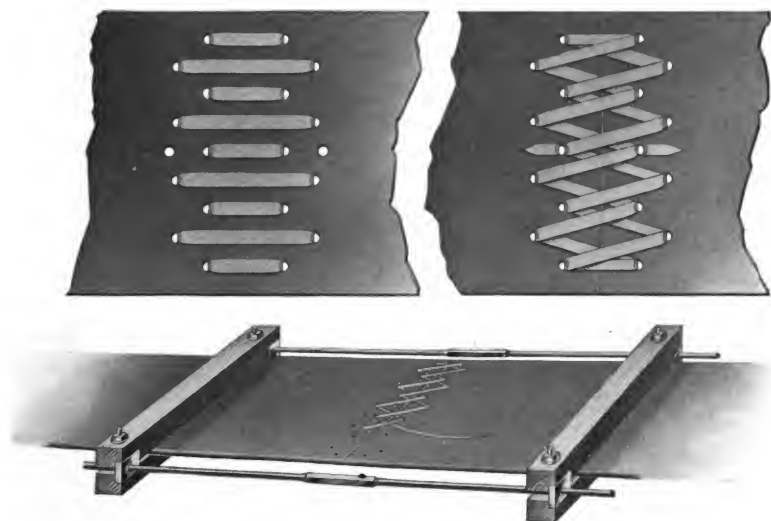
**To Ascertain Approximate Number of Feet in Roll of Belting**

The circumference of the roll in inches plus the circumference of the hole in inches divided by 2 and multiplied by the number of coils or laps in the radius of the roll will give the approximate length of belting in inches. This divided by 12 will give the number of feet in the roll within a few inches.

**Approximate Weight of Test Special Rubber Belting**

The approximate weight of belting can be computed by using as a basis the weight of 8-inch 4-ply, which is 80 pounds to 100 lineal feet. Other widths and plies in proportion.

## Lacing and Splicing Belts



While many different styles of lace leather, hooks, etc., are used in splicing belts, we recommend rawhide lace leather as the most satisfactory, durable and strongest, and by far the easiest on the belt of any style. If belts are laced according to the following rules the strength of belt at the splice is equal to four to six times its working load, which is an ample margin of safety. Therefore, considering the tensile strength of the belts, when they tear out at the lace holes they should not necessarily be considered as defective. An investigation of conditions will usually determine faulty method of lacing, or accident.

All belting stretches more or less, rubber less than other varieties, and in adjusting a new rubber belt to provide for stretch the measurement should be taken around the pulleys with a steel tape drawn tight, and in cutting allow according to the following table:

**Table No. 9****ALLOWANCE FOR STRETCH**

Ply	Allowance per Foot	Ply	Allowance per Foot	Ply	Allowance per Foot
3	$\frac{5}{32}$ Inch	6	$\frac{1}{8}$ Inch	9	$\frac{3}{32}$ Inch
4	$\frac{5}{32}$ "	7	$\frac{1}{8}$ "	10	$\frac{3}{32}$ "
5	$\frac{5}{32}$ "	8	$\frac{1}{8}$ "		

Cut ends of belts squarely across and punch two rows of holes in each end, the second row to be the same distance from the first as that is from the end of belt, so that each hole in the second row centers between the nearest two holes in the first row. Use belt clamps to draw the ends of belt together, being careful to see that an even tension is obtained on the belt.

The holes and size of lace used should be as per following table:

**Table No. 10**

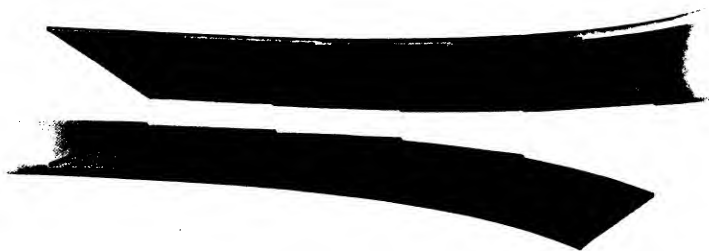
Belts up to	Size of Hole Inch	Size of Lace Inch	Distance of first Holes from ends of Belt Inches	Distance of first Hole from edge of Belt Inch	Space between Holes, Inches
3 inches wide . . . . .	$\frac{5}{32}$	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{4}$
3 to 6 inches wide . . .	$\frac{3}{16}$	$\frac{3}{8}$	$\frac{3}{4}$	$\frac{3}{8}$	1 to $1\frac{1}{4}$
6 to 12 inches wide . . .	$\frac{1}{4}$	$\frac{3}{8}$	1	$\frac{1}{2}$	$1\frac{1}{2}$
Over 12 inches wide . .	$\frac{5}{16}$	$\frac{1}{2}$	$1\frac{1}{4}$	1	$1\frac{3}{4}$

Lace from center hole in first row to opposite hole in second row, in such manner that the lace shall be straight and smooth on the pulley side, and crossed on back of belt, as illustrated in cuts on preceding page.

Wide belts should always be put on pulleys with clamps, as illustrated, by means of which they may be drawn tightly and laced properly without possibility of injury.

"Running on" a belt after it has been laced is liable to injure or break it.





### **Lap Splice**

To make a lap splice, step the ends of the belt as shown in cut, allowing three to four inches for each ply of cotton duck. Care should be used not to cut into the ply below the one to be removed. The exposed duck should then be given two good coats of rubber belt cement, permitting the first coat to dry thoroughly before applying the second, and permitting the second to dry before uniting the plies. The duck should be lapped about one-eighth inch and then rolled down thoroughly. A hammer or heavy mallet can be used in place of a roller if more convenient. The splice should then be riveted with copper rivets, being careful that the holes for rivets are not punched larger than the shank of the rivet. In small belts the splice may be laced instead of riveted if desired.

### **Diamond Lap Splice**

The method of making this splice is similar to that used in the ordinary lap splice, with the difference that the ends are cut diagonal instead of square. The edges of plies should be scarfed somewhat to insure a close fit.

### **Back Splice**

For wide belts, where riveted lap splice is not used, butt the ends, and in addition put a piece of rubber belting on the back to strengthen the joint, equal in length to about one-half the width of the belt, and sew or rivet it to the belt.

This form of splice is not suited to belts running under an idler.

### **Splicing Belts**

Where customers desire, we prepare ends of belt for splicing, making no extra charge other than the cost of the additional belting required.

### **Endless Belts**

If desired, we are prepared to make belts endless when manufacturing same, stitching and vulcanizing the splice, thus effecting a much stronger union.

### **Applying Belts to Pulleys**

Belts should never be "run on" the pulleys, and we cannot be responsible for injury when so applied. For endless belts the best method is to take both shafts out, place the belt in position on the pulleys, and then restore the shafts to their bearings. When belts are to be laced, the belt can be placed in position over the pulleys and the ends drawn together with belt clamps.

## **The Care of Belting**

### **Belt Dressing**

Although we do not recommend the use of a belt dressing it is sometimes advisable when the belt slips during the working day and it is impracticable to tighten it until the plant is shut down. It will increase the coefficient of friction and so enable the belt to pull a heavier load with a given tension.

The dressing should not contain mineral oils or rosin as both are detrimental. Add the dressing very sparingly—just sufficient to enable the belt to carry the load until it can be shortened.

If Test Special Belting slips continually and requires several shortenings it is not the fault of the belt. Too much is being expected of the belt as it will be found to be too light for the service.

### **Pulley Alignment**

Shafting and pulleys should be in perfect alignment, and pulleys should not be so widely spaced as to cause the belt to sag unduly. Idlers should be used only when unavoidable. They should be in perfect alignment with pulleys and run on the slack side of the belt, near the driven pulley.

**Tight Belts**

Tight belts should be avoided, as they cause undue strain on shafting and bearings, resulting in increased friction and much wasted power. Eminent authorities estimate that between 25 and 40 per cent of the total horse power developed is used in turning the engine and shafting alone. Belts should run without slipping and still be moderately slack.

**Oil on Belts**

Never allow animal or mineral oils to come in contact with a rubber belt.

**Vertical Drives**

Vertical drives should be avoided, but, where necessary, distance between centers should be short.

**Cross Drives**

Cross drives are very injurious to rubber belts, chafing the edges and causing separation and quick disintegration of the belt.

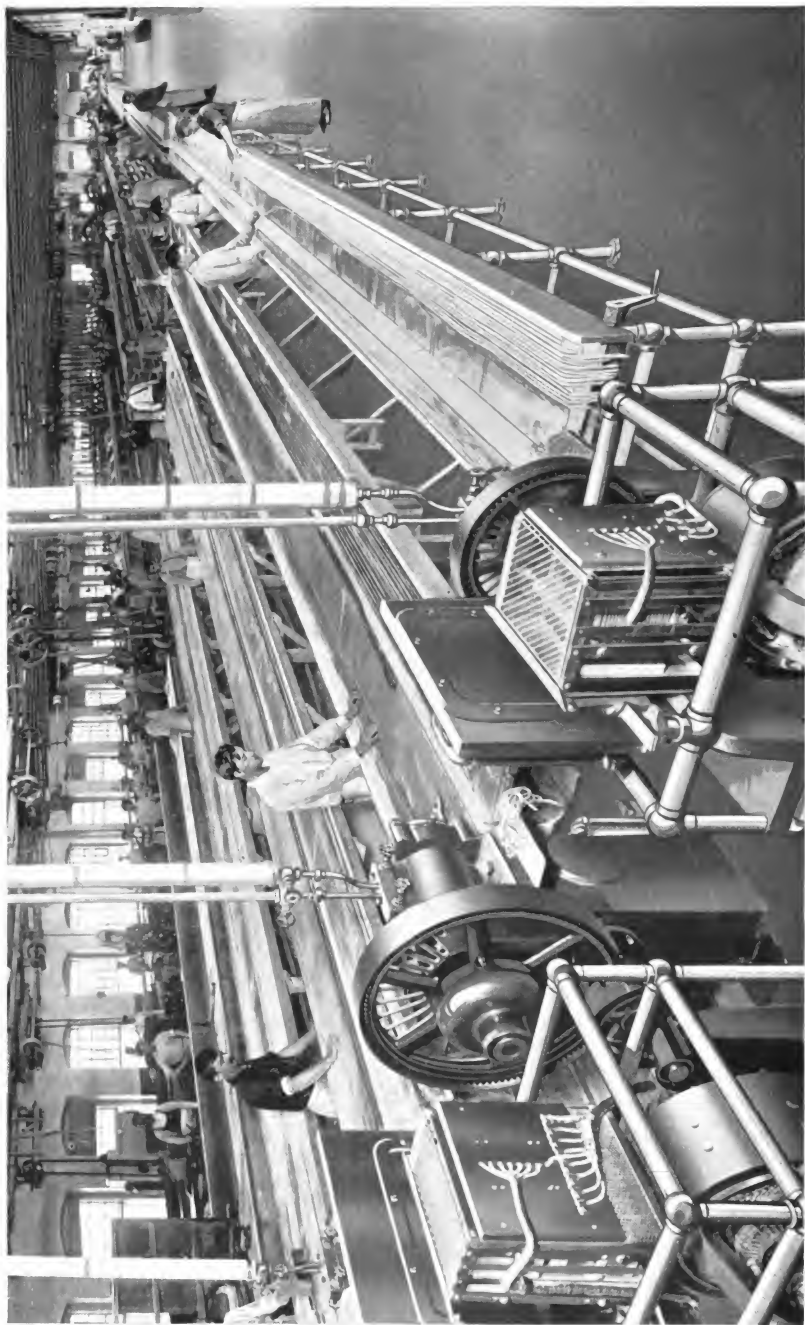
**Speed of Belts**

The maximum speed at which a rubber belt should be operated is 5000 feet per minute, and greater life and economy is obtained where the speed is kept inside of 4000 feet per minute.

**Band Saw Bands**

For band saw wheels. Manufactured of pure rubber, and duck lined if desired. Guaranteed perfectly true and even, an absolutely essential feature for the true running of the saw. When ordering specify diameter of wheel and width of face, and we will make proper allowance for stretch so that bands will fit tightly on wheels.

Price per pound \$2.00.



A Hose Room at our Factory, Passaic, N. J. Capacity, 60,000 Feet of Hose Daily



## Rubber Hose

Probably no line of manufactured rubber goods has had so much influence in establishing the rubber industry as a necessity as the perfection of the art of rubber hose making. Hose was originally manufactured from leather, and after Charles Goodyear's discovery of the art of vulcanizing rubber, its application to the manufacture of hose was one of the first to be considered. It was originally made by wrapping a strip of rubber on a mandrel and then wrapping around that two or three times a strip of cotton duck and vulcanizing the whole. To-day a large proportion of all rubber hose is made seamless as to the tube, and the cotton duck is thoroughly impregnated with rubber before wrapping on the tube. The wrapping is done by automatic machinery which exerts great pressure, thus giving perfect adhesion of the plies. And one of the final improvements for hose making as originated by this Company is the abandonment of cotton duck entirely and knitting or braiding the insertions from special yarns, or the combination of braiding and knitting with wrapped cotton duck, thus producing a truly seamless hose—seamless as to tube, insertions and cover.

Pioneers in the art of hose making, our skill and high grade products are offered in hose for all purposes, all liquids, air or gas, either under pressure or vacuum.

### Our Standard Brands of Hose are

Indestructible  
1846 Para  
Double Diamond  
Magic  
Carbon  
Vulcan  
Korona

Test  
Dragon  
R. R. S.  
Carboy  
Aetna  
Lenox  
Willow

Cable  
Comet  
Oxford  
Multiplex  
Puritan  
X. L.  
Garden City

Delta  
Spider  
Czar  
Sterling  
Jubilee  
Tuxedo  
Saco



## Rubber Hose

(Continued)

### Indestructible

A high grade rubber hose with seamless tube, the inner plies of specially strong cotton duck, thoroughly frictioned, and reinforced with a knit or braided jacket and protected on the outside by a high grade seamless rubber cover. A hose that is almost impervious to bursting, cannot open up because there are no seams, or lapped duck on the outside, and is practically kink-proof. Ideal as to quality and construction, and representing high art in hose making. Made in all sizes.

Price List, page 35.

Wrapped Duck Hose made in various qualities and all sizes.



Price List, page 35.

For brands of small Water or Lawn Hose, see pages 41 to 44.

# Water Conducting Hose of Wrapped Duck or Combination of Wrapped Duck and Braided Construction

## PRICE LIST

Internal Diameter Inches	2-ply Per Foot	3-ply Per Foot	4-ply Per Foot	5-ply Per Foot	6-ply Per Foot	7-ply Per Foot	8-ply Per Foot
$\frac{1}{2}$	\$ .20	\$ .25	\$ .30	\$ .37	\$ .45	\$ .55	\$ .62
$\frac{3}{4}$	.25	.30	.37	.46	.55	.62	.75
1	.33	.40	.50	.62	.75	.88	1.00
$1\frac{1}{4}$	.42	.50	.62	.77	.93	1.10	1.25
$1\frac{1}{2}$	.50	.60	.75	.93	1.12	1.32	1.50
$1\frac{3}{4}$	.58	.70	.87	1.08	1.30	1.54	1.75
2	.66	.80	1.00	1.25	1.50	1.76	2.00
$2\frac{1}{4}$	.75	.90	1.12	1.40	1.68	1.98	2.25
$2\frac{1}{2}$	.83	1.00	1.25	1.56	1.87	2.20	2.50
$2\frac{3}{4}$	.92	1.10	1.37	1.71	2.05	2.42	2.75
3	.99	1.20	1.50	1.87	2.25	2.64	3.00
$3\frac{1}{2}$	1.16	1.40	1.75	2.18	2.62	3.08	3.50
4	1.32	1.60	2.00	2.50	3.00	3.52	4.00
5	1.65	2.00	2.50	3.13	3.75	4.40	5.00
6	1.98	2.40	3.00	3.75	4.50	5.28	6.00
7	2.31	2.80	3.50	4.38	5.25	6.16	7.00
8	2.64	3.20	4.00	5.00	6.00	7.04	8.00
9	2.97	3.60	4.50	5.63	6.75	7.92	9.00
10	3.33	4.00	5.00	6.25	7.50	8.80	10.00
11	3.66	4.40	5.50	6.87	8.25	9.68	11.00
12	3.99	4.80	6.00	7.50	9.00	10.56	12.00

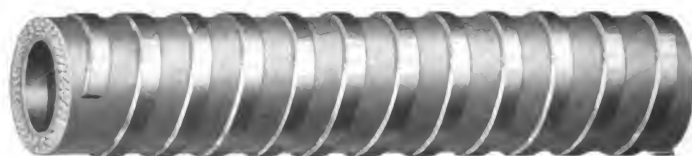
## ARMOURING FOR HOSE



ROUND WIRE WINDING



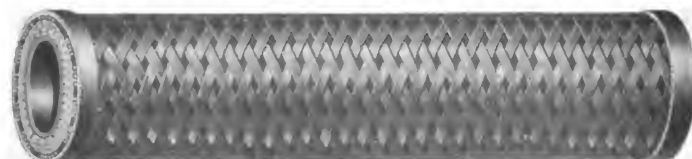
HALF ROUND WIRE WINDING



FLAT WIRE WINDING



FLAT WIRE BRAID



ROUND WIRE BRAID

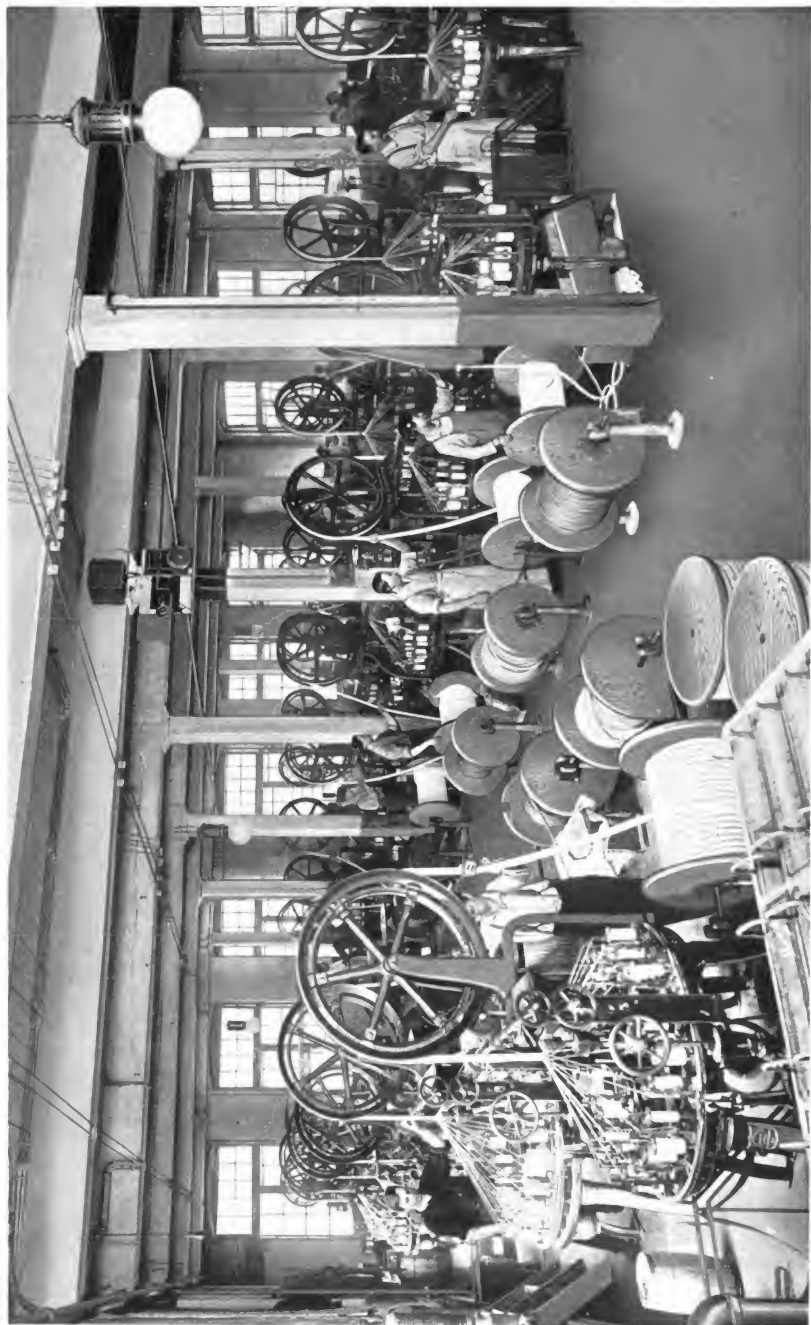


## Armouring for Water Hose of Wrapped Duck or Combination of Wrapped Duck and Braided Construction

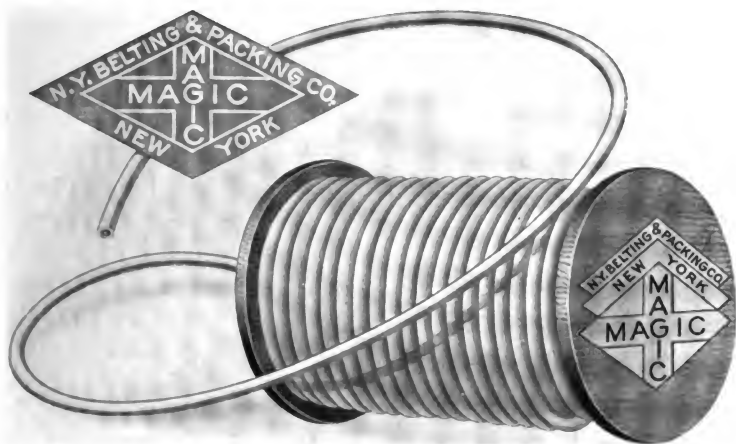
### PRICE LIST

Round Wire Winding                  Flat Wire Winding  
Half Round Wire Winding        Flat Wire Braid  
Round Wire Braid

Size, Inches	3-ply Per Foot	4-ply Per Foot	5-ply Per Foot	6-ply Per Foot
$\frac{1}{2}$	\$ .07	\$ .08	\$ .10	\$ .12
$\frac{3}{4}$	.08	.10	.12	.15
1	.10	.12	.15	.18
$1\frac{1}{4}$	.12	.15	.19	.23
$1\frac{1}{2}$	.14	.18	.23	.27
$1\frac{3}{4}$	.17	.21	.26	.32
2	.20	.24	.30	.36
$2\frac{1}{4}$	.22	.27	.34	.41
$2\frac{1}{2}$	.24	.30	.38	.45
3	.28	.36	.46	.54



Braiding the Insertions in Continuous Length Hose. Capacity, 100,000 Feet of Continuous Length Hose Weekly



## Magic Water Hose

Our best grade of Continuous Hose. No cotton duck whatever is used in this hose but the insertions are braided from cotton yarns of great tensile strength; each ply is separate in itself with a distinct layer of rubber between. The inner tube and cover are seamless and compounded into a particularly tough and durable stock. As the hose is vulcanized under very high steam pressure the rubber is thoroughly forced through the meshes of the insertions, making separation impossible. This method of construction gives a hose of much greater working and bursting strength than the wrapped duck construction, and of the greatest possible flexibility. A particularly desirable hose for the jobber and dealer as the continuous length feature eliminates the question of remnants. Made in all sizes up to and including 1½ inches; sizes up to and including 1 inch in 500-foot lengths; over 1 inch in 200-foot lengths.

Write for special Magic Hose Booklet.



## Jubilee Water Hose

A Continuous Hose made in the same manner as Magic and of same grade yarns for the insertion, but of less costly rubber compound. Not equal to our Magic in quality, but equal to the best of other makes of reel hose.

Price List Continuous Length Water Hose, page 40.

**Continuous Length Water Conducting Hose****PRICE LIST**

Internal Diameter Inches	2-ply Per Foot	3-ply Per Foot	4-ply Per Foot
$\frac{3}{8}$	\$ .22	\$ .27	\$ .33
$\frac{1}{2}$	.25	.30	.37
$\frac{5}{8}$	.28	.34	.42
$\frac{3}{4}$	.30	.37	.46
1	.40	.50	.62
$1\frac{1}{4}$	.50	.62	.77
$1\frac{1}{2}$	.60	.75	.93

**Armouring for Continuous Length Water Hose****PRICE LIST**

(For cuts of Armour, see page 36)

Round Wire Winding

Flat Wire Winding

Half Round Wire Winding

Flat Wire Braid

Round Wire Braid

Internal Diameter Inches	2-ply Per Foot	3-ply Per Foot	4-ply Per Foot
$\frac{3}{8}$	\$ .07	\$ .08	\$ .10
$\frac{1}{2}$	.07	.08	.10
$\frac{5}{8}$	.075	.09	.11
$\frac{3}{4}$	.08	.10	.12
1	.10	.12	.15
$1\frac{1}{4}$	.12	.15	.19
$1\frac{1}{2}$	.14	.18	.23

## **Garden or Lawn Hose**

Cuts of our brands of Garden or Lawn Hose will be found on the following pages. The line is very complete, ranging from the highest grade of Lawn Hose that can be made at any price, to a hose at very moderate cost. Proper description is obtainable only in a separate catalogue, which we will be very pleased to mail on request.

Write for Catalogue "G-1" on Garden Hose.

## **The Care of Lawn Hose**

A good grade of Lawn Hose, if properly taken care of, will last for many years. The purchaser, in making his selection, should carefully consider the name and reputation of the manufacturer, and if unacquainted with the hose best suited for his requirements, be governed to a large extent by the advice of the maker.

Do not allow the hose to lie around on the lawn exposed to the weather, and always see that it is drained of water before putting away. When storing for the winter, be careful not to place too near a furnace where the heat will dry it out, or in a cold place where the temperature is below freezing.

To be properly taken care of, hose should always be wound on a reel.









## Strength of Hose

The strength of rubber hose depends on two things—the strength of the cotton duck or braided insertion, and the quality of the rubber tube and friction holding the plies together—and to the quality of the rubber is largely due the permanent or lasting strength of the hose. A low grade rubber will deteriorate over fifty per cent faster in strength than a good quality. As the strength of the lower grade rubber is so inferior to rubber of good quality, it is impracticable to give an accurate table that would apply to all qualities, showing the proper weight of hose for various working pressures, as same would necessarily vary. The table below shows the approximate working pressure for water conducting hose of good quality.

Working Pressure.....	75 Pounds	100 Pounds	125 Pounds	150 Pounds
For $\frac{1}{2}$ inch use.....	3-ply	4-ply	5-ply	6-ply
For $\frac{3}{4}$ inch use.....	3-ply	4-ply	5-ply	6-ply
For 1 inch use.....	3-ply	4-ply	5-ply	6-ply
For $1\frac{1}{4}$ inches use.....	3-ply	4-ply	5-ply	6-ply
For $1\frac{1}{2}$ inches use.....	3-ply	4-ply	5-ply	6-ply
For 2 inches use.....	3-ply	4-ply	5-ply	6-ply
For $2\frac{1}{2}$ inches use.....	3-ply	4-ply	5-ply	6-ply

## Reservoir Pressures per Square Inch at Various Elevations

Elevation Feet	Pounds Per Square Inch	Elevation Feet	Pounds Per Square Inch
50	21.65	125	54.35
60	25.99	150	64.96
70	30.32	200	86.62
80	34.65	250	108.27
90	38.98	300	129.93
100	43.33		

To ascertain approximate pressure for other elevations not given, multiply the elevation by .433.

## Number of Gallons Contained in Each Foot of Length of Hose

Internal Diameter Inches	Gallon	Internal Diameter Inches	Gallons
$\frac{1}{2}$	.0102	$3\frac{1}{2}$	.4998
$\frac{3}{4}$	.0230	4	.6528
1	.0408	5	1.02
$1\frac{1}{4}$	.0638	6	1.469
$1\frac{1}{2}$	.0918	8	2.611
2	.1632	10	4.08
$2\frac{1}{2}$	.2550	12	5.875
3	.3672		

One gallon equals 231 cubic inches.



## Steam Hose

A factory's ability to make rubber goods is well exemplified in the manufacture of Steam Hose. The present day system and general scheme of driving means high pressure steam service far beyond what existed five or ten years ago. It can be readily appreciated that a steam temperature beyond that at which the hose is vulcanized must soon have its effect on any rubber hose. Rubber alone is not a good steam resister, and to compound it with such ingredients as will best resist the severe heat generated is the true test of the rubber manufacturer's skill. No branch of our factory has received such careful attention and constant experimentation as the Steam Hose Department, and this has resulted in our evolving Steam Hose that stands in a class by itself. We manufacture various grades, each brand unexcelled at the price. All grades can be furnished with marline winding, marline woven jacket, or wire wound in any of the various styles, as described on page 49.



## Indestructible Steam Hose

Indestructible Steam Hose is made with a woven jacket between the outer ply of cotton duck and the rubber cover. This jacket reduces to the minimum the expansion of the hose under pressure, so that the adhesion of the rubber friction uniting the plies is preserved at its maximum strength, thus greatly prolonging the life of the hose. The woven jacket also increases the flexibility, thus reducing the danger of kinking. Indestructible Steam Hose does not require extra covering to add to its strength, other than for external wear, where the hose is used in rough places.

Price List, page 49.



The above represent our standard grades of Steam Hose of wrapped duck construction, and the rubber used in each grade represents the acme of rubber compounding for steam resistance.

Price List, page 49.

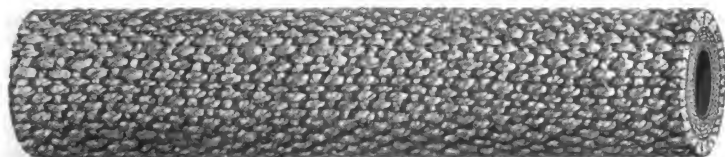
## Steam and Oil Hose

## PRICE LIST

Size, Inches	3-ply Per Ft.	4-ply Per Ft.	5-ply Per Ft.	6-ply Per Ft.	7-ply Per Ft.	8-ply Per Ft.	9-ply Per Ft.	10-ply Per Ft.
$\frac{1}{2}$	\$ .47	\$ .56	\$ .70	\$ .84	\$ .98	\$1.12	\$1.26	\$1.40
$\frac{3}{4}$	.57	.71	.87	1.05	1.23	1.41	1.60	1.78
1	.70	.87	1.07	1.28	1.50	1.70	1.96	2.18
$1\frac{1}{4}$	.85	1.04	1.30	1.56	1.82	2.08	2.34	2.60
$1\frac{1}{2}$	1.02	1.25	1.56	1.87	2.18	2.50	2.81	3.13
$1\frac{3}{4}$	1.18	1.45	1.81	2.17	2.53	2.90	3.26	3.63
2	1.34	1.66	2.07	2.49	2.90	3.32	3.74	4.15
$2\frac{1}{4}$	1.50	1.87	2.33	2.80	3.27	3.74	4.21	4.68
$2\frac{1}{2}$	1.66	2.08	2.60	3.12	3.64	4.16	4.68	5.20
3	1.98	2.50	3.12	3.75	4.38	5.00	5.63	6.25



Cotton Jacket



Marline Jacket

## Covering Steam and Air Drill Hose with Woven Cotton (Plain or Painted) and Marline Jackets

## PRICE LIST

Size Inches	3-ply Per Foot	4-ply Per Foot	5-ply Per Foot	6-ply Per Foot	7-ply Per Foot	8-ply Per Foot
$\frac{1}{2}$	\$ .12	\$ .15	\$ .19	\$ .23	\$ .26	\$ .30
$\frac{3}{4}$	.15	.19	.24	.29	.33	.38
1	.18	.23	.29	.34	.40	.46
$1\frac{1}{4}$	.23	.29	.36	.43	.51	.58
$1\frac{1}{2}$	.28	.34	.46	.51	.60	.68
2	.35	.45	.56	.68	.79	.92
$2\frac{1}{4}$	.40	.51	.64	.76	.89	1.02
$2\frac{1}{2}$	.45	.56	.70	.84	.98	1.12

## Armouring for Steam and Air Hose

## PRICE LIST

(For cuts of Armour, see page 36)

Round Wire Winding  
Half Round Wire Winding  
Flat Wire Winding

Round Wire Braid  
Flat Wire Braid  
Marline Winding

Size Inches	3-ply Per Foot	4-ply Per Foot	5-ply Per Foot	6-ply Per Foot	7-ply Per Foot	8-ply Per Foot
$\frac{1}{2}$	\$ .10	\$ .12	\$ .15	\$ .18	\$ .21	\$ .24
$\frac{3}{4}$	.12	.15	.19	.23	.26	.30
1	.14	.18	.23	.27	.32	.36
$1\frac{1}{4}$	.18	.23	.29	.34	.40	.45
$1\frac{1}{2}$	.22	.27	.34	.41	.47	.54
$1\frac{3}{4}$	.25	.32	.39	.47	.55	.63
2	.28	.36	.45	.54	.63	.72
$2\frac{1}{4}$	.32	.41	.51	.61	.71	.81
$2\frac{1}{2}$	.36	.45	.56	.68	.79	.90

When ordering Steam Hose always specify the steam pressure, or be governed by the following table:

Steam Pressure.....	20 pounds	30 pounds	40 pounds	50 pounds	60 pounds
For $\frac{1}{2}$ inch use.....	3-ply	3-ply	4-ply	4-ply	4-ply
For $\frac{3}{4}$ inch use.....	3-ply	4-ply	4-ply	4-ply	5-ply
For 1 inch use.....	4-ply	4-ply	4-ply	5-ply	5-ply
For $1\frac{1}{4}$ inches use...	4-ply	4-ply	4-ply	5-ply	6-ply
For $1\frac{1}{2}$ inches use...	4-ply	4-ply	5-ply	5-ply	6-ply
For 2 inches use....	5-ply	5-ply	6-ply	7-ply	7-ply
Steam Pressure.....	70 pounds	80 pounds	90 pounds	100 pounds	
For $\frac{1}{2}$ inch use.....	5-ply	5-ply	6-ply	6-ply	
For $\frac{3}{4}$ inch use.....	6-ply	6-ply	6-ply	7-ply	
For 1 inch use.....	6-ply	7-ply	7-ply	8-ply	
For $1\frac{1}{4}$ inches use...	7-ply	8-ply	8-ply	8-ply	
For $1\frac{1}{2}$ inches use...	7-ply	8-ply	8-ply	10-ply	
For 2 inches use....	8-ply	10-ply	10-ply	10-ply	

## Temperature or Heat Generated at Various Steam Gauge Pressures

10 pounds—240° F.  
20 pounds—260° F.  
30 pounds—275° F.  
40 pounds—288° F.  
50 pounds—298° F.  
55 pounds—303° F.  
60 pounds—307° F.  
65 pounds—312° F.  
70 pounds—316° F.

75 pounds—320° F.  
80 pounds—324° F.  
90 pounds—331° F.  
100 pounds—338° F.  
125 pounds—353° F.  
150 pounds—366° F.  
200 pounds—388° F.  
225 pounds—398° F.  
250 pounds—406° F.



## Brewers Hose

An exceptionally heavy hose with thick tube and cover, usually four-ply. Stocks are specially designed for resisting either hot or cold liquids. Regularly furnished with dark cover, but all grades made to order with either red or white cover if desired.

### PRICE LIST

Size, Inches	3-ply Per Foot	4-ply Per Foot	5-ply Per Foot	6-ply Per Foot
$\frac{3}{4}$	\$ .57	\$ .71	\$ .87	\$1.05
1	.70	.87	1.07	1.28
$1\frac{1}{4}$	.85	1.04	1.30	1.56
$1\frac{1}{2}$	1.02	1.25	1.56	1.87
$1\frac{3}{4}$	1.18	1.45	1.81	2.17
2	1.34	1.66	2.07	2.49
$2\frac{1}{4}$	1.50	1.87	2.33	2.80
$2\frac{1}{2}$	1.66	2.08	2.60	3.12

For Wire Winding Brewers Hose, use list on page 50.



## Air Drill Hose

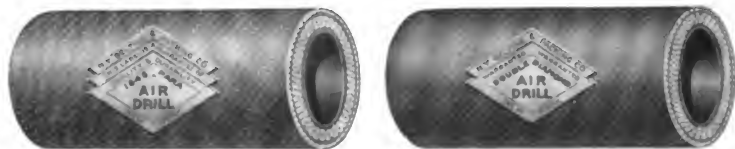
Especially made to withstand the high pressures and rough usage which hose of this character receives in mining work. Manufactured in various grades and each quality guaranteed to give adequate service commensurate with its cost. Usually made with one ply of frictioned cotton duck outside, counting as one ply, and any style of armor or marline jacket protection, as listed on pages 49 and 50.





## Indestructible Air Drill Hose

This brand of Air Drill Hose is constructed with the inner plies of specially selected cotton duck, held together by a high quality of rubber friction and with braided jacket between the cotton duck and rubber cover. Indestructible Air Drill Hose, when ordered of proper weight for the service, is proof against bursting, and does not require the additional protection of outside armouring. The hose is exceedingly flexible and guaranteed superior to any Air Drill Hose on the market.



Air Drill Hose also manufactured of wrapped cotton duck, but of superior quality of rubber and friction that places them in a special class. This hose will be found superior in service to any other hose of similar construction. Regular brands, 1846 Para and Double Diamond.

Price List, page 54.

**Air Drill Hose****PRICE LIST**

Diameter Inches	4-ply (3-ply inside 1-ply outside)	5-ply (4-ply inside 1-ply outside)	6-ply (5-ply inside 1-ply outside)
$\frac{3}{4}$	\$ .71	\$ .87	\$1.05
1	.87	1.07	1.28
$1\frac{1}{4}$	1.04	1.30	1.56
$1\frac{1}{2}$	1.25	1.56	1.87
2	1.66	2.07	2.49
$2\frac{1}{4}$	1.87	2.33	2.80
$2\frac{1}{2}$	2.08	2.60	3.12
3	....	....	4.20

**Air Drill Hose Coverings**

List prices for round, half-round and flat wire winding, flat wire braid, round wire braid, woven cotton and woven marline coverings, are the same as for Steam Hose, and will be found on pages 49 and 50.



## Magic (Continuous Length) Air Drill Hose

This grade is made in two weights, Regular and Extra Heavy, and either with rubber cover or braided cover. No cotton duck used in its construction, but all plies are braided from selected yarns, with a distinct layer of rubber between each ply. Magic Air Drill Hose can be furnished in continuous lengths up to 200 feet. It is especially strong and flexible and practically unkinkable.

### Magic Air Drill Hose

#### PRICE LIST

Internal Diameter Inches	2-ply Per Foot	3-ply Per Foot	4-ply Per Foot	5-ply Per Foot
$\frac{3}{4}$	\$ .57	\$ .71	\$ .87	\$1.05
1	.70	.87	1.07	1.28
$1\frac{1}{4}$	.85	1.04	1.30	1.56
$1\frac{1}{2}$	1.02	1.25	1.56	1.87

### Extra Heavy Magic Air Drill Hose

#### PRICE LIST

Internal Diameter Inches	4-ply Per Foot	5-ply Per Foot
$\frac{3}{4}$	\$1.05	\$1.23
1	1.28	1.50
$1\frac{1}{4}$	1.56	1.82

## Armouring and Cotton Jackets for Magic Air Drill Hose

### PRICE LIST

(For cut of Armouring, see page 36)

Round Wire Winding      Flat Wire Winding  
Half Round Wire Winding      Flat Wire Braid  
Round Wire Braid

### For Regular Magic Air Drill Hose

Internal Diameter Inches	2-ply Per Foot	3-ply Per Foot	4-ply Per Foot	5-ply Per Foot
$\frac{3}{4}$	\$ .12	\$ .15	\$ .19	\$ .23
1	.14	.18	.23	.27
$1\frac{1}{4}$	.18	.23	.29	.34
$1\frac{1}{2}$	.22	.27	.34	.41

### For Extra Heavy Magic Air Drill Hose

Internal Diameter Inches	4-ply Per Foot	5-ply Per Foot
$\frac{3}{4}$	\$ .23	\$ .26
1	.27	.32
$1\frac{1}{4}$	.34	.40

### Woven Cotton Jackets (plain or painted) for Regular Magic Air Drill Hose

(For cuts of Jackets, see page 49)

Internal Diameter Inches	2-ply Per Foot	3-ply Per Foot	4-ply Per Foot	5-ply Per Foot
$\frac{3}{4}$	\$ .15	\$ .19	\$ .24	\$ .29
1	.18	.23	.29	.34
$1\frac{1}{4}$	.23	.29	.36	.43
$1\frac{1}{2}$	.28	.34	.46	.51

### For Extra Heavy Magic Air Drill Hose

Internal Diameter Inches	4-ply Per Foot	5-ply Per Foot
$\frac{3}{4}$	\$ .29	\$ .33
1	.34	.40
$1\frac{1}{4}$	.43	.51



## Pneumatic Tool Hose

The universal use of the pneumatic tool has necessitated the construction of a hose that will not only be exceedingly light and flexible, but that will not kink and will successfully resist the intermittent pressure and vibration to which it is constantly subjected in service. We manufacture various styles and qualities adapted to all conditions of service and guarantee satisfaction.



## Indestructible Pneumatic Tool Hose

This grade is made similar to Indestructible Air Drill Hose but of lighter gauges. The braided jacket between the outer ply of duck and rubber cover gives enormous strength to the hose and at the same time great flexibility, and prevents the possibility of hose kinking in service. Necessarily a high priced hose but one that once tried proves its economy in service.

Price List, page 59.

## Pneumatic Tool Hose



### Double Diamond

Made of moderately heavy cotton duck insertion and reinforced on outside with extra ply of very strong cotton duck well frictioned with rubber, and moisture proof. It is not easily injured by dragging over rough surfaces.

### Multiplex

A multiple-ply hose, made on a light weight cotton duck, firmly frictioned together; not as expensive as Double Diamond, but a good hose at moderate cost.

### Sterling

Is constructed on the same lines as Multiplex, but of lighter weight cotton duck. A good Tool Hose at small cost.

**Pneumatic Tool Hose****PRICE LIST**

Internal Diameter Inches	3-ply Per Foot	4-ply Per Foot	5-ply Per Foot	6-ply Per Foot	7-ply Per Foot
$\frac{1}{4}$	\$ .39	\$ .46			
$\frac{3}{8}$	.43	.51	\$ .63	\$ .76	
$\frac{1}{2}$	.47	.56	.70	.84	\$ .98
$\frac{5}{8}$	.52	.64	.79	.95	1.11
$\frac{3}{4}$	.57	.71	.87	1.05	1.23
1	.70	.87	1.07	1.28	1.50
$1\frac{1}{4}$	.85	1.04	1.30	1.56	1.82

**Armouring for Pneumatic Tool Hose****PRICE LIST**

(For cuts of Armour, see page 36)

Round Wire Winding                      Flat Wire Winding

Half Round Wire Winding              Flat Wire Braid

Round Wire Braid

Internal Diameter Inches	3-ply Per Foot	4-ply Per Foot	5-ply Per Foot	6-ply Per Foot	7-ply Per Foot
$\frac{1}{4}$	\$ .09	\$ .11	\$ .13		
$\frac{3}{8}$	.09	.11	.13	\$ .16	
$\frac{1}{2}$	.10	.12	.15	.18	\$ .21
$\frac{5}{8}$	.11	.14	.17	.20	.24
$\frac{3}{4}$	.12	.15	.19	.23	.26
1	.14	.18	.23	.27	.32
$1\frac{1}{4}$	.18	.23	.29	.34	.40



## Magic Pneumatic Tool Hose

Is of our continuous construction, all plies being braided. The rubber is of high grade stock, specially designed for resisting the oil, which is bound to leak into the hose from the compressor. Magic Pneumatic Tool Hose is especially light and strong, and can be tied in a knot without kinking. Manufactured in continuous lengths of 500 feet in sizes 1 inch and under, and lengths of 200 feet in larger sizes, thus greatly reducing the weight of a long line of hose by eliminating the use of couplings.

### PRICE LIST

Size, Inches	2-ply Per Foot	3-ply Per Foot	4-ply Per Foot	5-ply Per Foot
$\frac{3}{8}$	\$ .43	\$ .51	\$ .63	\$ .76
$\frac{1}{2}$	.47	.56	.70	.84
$\frac{5}{8}$	.52	.64	.79	.95
$\frac{3}{4}$	.57	.71	.87	1.05
1	.70	.87	1.07	1.28
$1\frac{1}{4}$	.85	1.04	1.30	1.56

## Armouring for Magic Pneumatic Tool Hose

(For cuts of Armour, see page 36)

Round Wire Winding      Flat Wire Winding  
 Half Round Wire Winding      Flat Wire Braid  
 Round Wire Braid

### PRICE LIST

Internal Diameter Inches	2-ply Per Foot	3-ply Per Foot	4-ply Per Foot	5-ply Per Foot
$\frac{3}{8}$	\$ .07	\$ .08	\$ .10	\$ .12
$\frac{1}{2}$	.07	.08	.10	.12
$\frac{5}{8}$	.07 $\frac{1}{2}$	.09	.11	.13
$\frac{3}{4}$	.08	.10	.12	.15
1	.10	.12	.15	.18
$1\frac{1}{4}$	.12	.15	.19	.23





## **Suction Hose**

The term "suction" defines its use—the reverse from conducting or discharge hose, in that the pressure on the hose is from the outside, caused by the vacuum created in drawing the liquids through. We regularly make suction hose in a large variety of styles and qualities, and if you have any special needs, acquaint us with the conditions and we will build a hose to meet your requirements.

### **Regular Brands of Suction Hose**

**1846 Para**

**Double Diamond**

**Carbon**



## Suction Hose

(Continued)

### Smooth Bore Suction Hose

This style has a pure rubber lining, or tube, varying in quality and thickness according to the character of the service, the wire spiral being imbedded in the wall. It is used principally for pumping acids, sand, gravel, or liquids containing a large percentage of mineral matter, which would have a tendency to cut away a metallic lining. Made in all sizes from  $\frac{3}{4}$  inch to 36 inches internal diameter.

### Wire-lined Suction Hose

Ordinarily termed Rough Bore, it has no rubber tube or lining, the wire being exposed on the inside although imbedded in the wall of the hose, so as to make a smooth waterway. This style hose is designed for pumping clear liquids. It is manufactured in sizes from  $\frac{3}{4}$  inch to 12 inches.

### Oil Suction Hose

Either smooth bore or wire lined, and of rubber stocks especially compounded to withstand the action of oil.

### Diaphragm Pump Suction Hose

Especially made for excavating pumps and usually wire lined, in which style it is stocked in 10, 12, 15 and 20-foot lengths, with or without fittings, and in sizes 3, 4, 5 and 6 inches internal diameter. Can be furnished smooth bore to order if desired.

### Unloading Hose

A light weight, smooth bore oil suction hose, for discharging oil tank cars by gravity. Should not be used under a vacuum. Furnished with fittings and goose-neck attachment if desired.

### Brewers Suction Hose

Smooth bore in construction, of very heavy gauges and particularly designed for conveying malt liquors.

## Smooth Bore Suction Hose

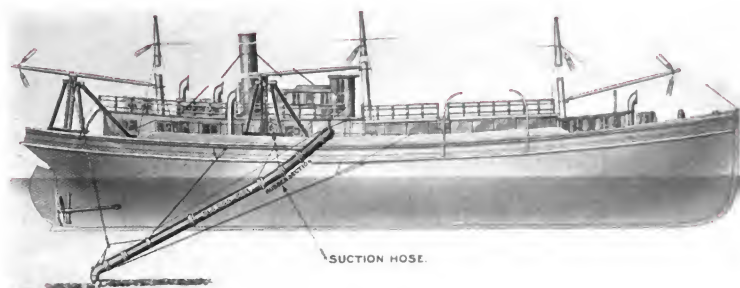
## PRICE LIST

Internal Diameter Inches	Per Foot	Internal Diameter Inches	Per Foot
$\frac{3}{4}$	\$ .80	$6\frac{1}{2}$	\$12.00
1	1.05	7	13.50
$1\frac{1}{4}$	1.30	$7\frac{1}{2}$	15.00
$1\frac{1}{2}$	1.70	8	16.50
$1\frac{3}{4}$	2.15	9	19.50
2	2.60	10	22.50
$2\frac{1}{2}$	3.50	12	27.50
3	4.50	13	32.25
$3\frac{1}{2}$	5.50	14	37.50
4	6.50	15	43.00
$4\frac{1}{2}$	7.50	16	49.00
5	8.50	18	62.00
$5\frac{1}{2}$	9.50	20	76.00
6	10.50	24	110.00

## Wire Lined Suction Hose

## PRICE LIST

Internal Diameter Inches	Per Foot	Internal Diameter Inches	Per Foot
$\frac{3}{4}$	\$ .70	5	\$7.60
1	.90	$5\frac{1}{2}$	8.50
$1\frac{1}{4}$	1.15	6	9.50
$1\frac{1}{2}$	1.50	$6\frac{1}{2}$	10.50
$1\frac{3}{4}$	1.90	7	12.00
2	2.30	$7\frac{1}{2}$	13.50
$2\frac{1}{2}$	3.10	8	15.00
3	4.00	9	17.50
$3\frac{1}{2}$	4.90	10	20.00
4	5.80	12	25.00
$4\frac{1}{2}$	6.70		



### Dredging Suction Hose

Made of highest grade stocks in all sizes from 6 inches to 36 inches internal diameter. In the larger sizes of Dredging Suction Hose, the service is very severe.

We have met with such success in building hose for this service and a full knowledge of the requirements, gained by many years' experience, enables us to furnish suitable Suction Hose for any dredging condition.

Price List same as Smooth Bore Suction Hose, page 64.

### Agricultural or Portable Suction Hose

A light weight Smooth Bore Suction Hose, for use on threshing machine pumps, portable and agricultural engines. Furnished plain or with woven painted cotton jacket on the outside. The latter is strongly recommended, as it protects the hose from external injury, the most common cause of its failure. Made in standard lengths of 10, 15, 20, 25 and 50 feet, and, if required, with enlarged ends for fittings.

#### PRICE LIST

Internal Diameter Inches	Plain Per Foot	Woven Painted Cotton Jacket Per Foot—Extra
$\frac{3}{4}$	\$ .65	\$ .19
1	.75	.23
$1\frac{1}{4}$	.93	.29
$1\frac{1}{2}$	1.13	.34
$1\frac{3}{4}$	1.31	.40
2	1.50	.45
$2\frac{1}{4}$	1.69	.51
$2\frac{1}{2}$	1.88	.56
3	2.26	.68
$3\frac{1}{2}$	2.64	.80

## Hard Rubber Suction Hose

Hard Rubber Suction Hose is designed for light service on hand pumps, portable engines, drilling, etc. It is made without spiral wire in the wall, but of hard firm stocks, thus securing the necessary rigidity for light suction service. Furnished with plain or with woven painted cotton jacket, the latter affording external protection and greatly prolonging the life of the hose.

### PRICE LIST

Internal Diameter Inches	Plain Per Foot	Woven Painted Cotton Jacket Per Foot—Extra
$\frac{3}{4}$	\$ .65	\$ .19
1	.75	.23
$1\frac{1}{4}$	.93	.29
$1\frac{1}{2}$	1.13	.34



## Vacuum Cleaner Hose

For use in connection with vacuum cleaning apparatus. This service demands a light and flexible hose with wall reinforced to prevent collapse, and tube of good quality, to resist the action of the small particles of sand, grit, etc., that are drawn through the hose. Vacuum Hose is generally made with spirally coiled wire embedded in the tube or between the plies of cotton duck. Can be furnished covered with braided cotton in various combinations of colors.

### PRICE LIST

Internal Diameter Inches	Per Foot	Internal Diameter Inches	Per Foot
$\frac{1}{2}$	\$ .55	$1\frac{3}{4}$	\$1.31
$\frac{3}{4}$	.65	2	1.50
1	.75	$2\frac{1}{4}$	1.69
$1\frac{1}{4}$	.93	$2\frac{1}{2}$	1.88
$1\frac{1}{2}$	1.13		



## Chemical Engine Hose

A red covered hose made of high grade stocks, tube being compounded to resist the action of the chemicals with which it comes in contact. All ends are capped with rubber, thus preventing rotting of the cotton duck and greatly prolonging the life of the hose.

### PRICE LIST

Internal diameter, $\frac{1}{2}$ inch, 4-ply, per foot	\$ .56
Internal diameter, $\frac{3}{4}$ inch, 4-ply, per foot	.71
Internal diameter, 1 inch, 4-ply, per foot	.87



## Magic Chemical Hose

The continuous feature of Magic Hose permits a chemical engine to be equipped with a full length of hose (200 feet) requiring but one set of couplings. The rubber stocks used are especially compounded for this service and to resist the action of the various chemicals which are conveyed.

### PRICE LIST

Internal Diameter Inch	3-ply Per Foot	4-ply Per Foot
$\frac{1}{2}$	\$ .56	\$ .70
$\frac{3}{4}$	.71	.87
1	.87	1.07



## Acid Hose

The Carboy Brand—made with various thicknesses of tube and extra heavy cover. Ends are capped so as to thoroughly protect the cotton duck. Usually made 4-ply, but heavier if desired. The rubber stock in our Acid Hose is especially compounded to resist acids and chemicals, and many years of service have demonstrated its superiority in durability.

### PRICE LIST—4 PLY

Internal Diameter Inches	$\frac{1}{8}$ -inch Tube Per Foot	$\frac{3}{16}$ -inch Tube Per Foot	$\frac{1}{4}$ -inch Tube Per Foot
$\frac{3}{4}$	\$1.50	\$1.80	\$2.20
1	1.90	2.20	2.80
$1\frac{1}{4}$	2.20	2.75	3.40
$1\frac{1}{2}$	2.65	3.30	4.00
$1\frac{3}{4}$	3.10	3.80	4.60
2	3.55	4.35	5.20
$2\frac{1}{4}$	4.00	4.90	5.80
$2\frac{1}{2}$	4.40	5.40	6.40
3	5.30	6.40	7.60
$3\frac{1}{2}$	6.15	7.40	8.80
4	7.10	8.45	10.00

2-ply 25 % less than 4-ply

3-ply  $12\frac{1}{2}$ % less than 4-ply

5-ply 25 % more than 4-ply

6-ply 50 % more than 4-ply

## Gas Hose

This hose is designed for charging tanks under railway passenger cars equipped with gas lighting systems. To successfully resist the peculiarly penetrating effects of illuminating gas under the excessively high pressure at which the tanks are charged, demands the highest degree of excellence. Our hose is constructed of specially woven cotton duck and selected stocks and is made either with or without wire helix in the wall, and is fully guaranteed for the work.

### PRICE LIST

Internal diameter,  $\frac{1}{2}$  inch, per foot \$ .84

Internal diameter,  $\frac{5}{8}$  inch, per foot .95



## Spray Pump Hose

Manufactured in various qualities suitable for solutions of light strength, or in special stocks for oil and various chemicals used in strong spraying solutions. For ordinary requirements we recommend our regular Garden Hose qualities in three and five-ply, suitable for working pressures from 100 to 200 pounds. Give us details as to your requirements, and we will furnish hose that will perform the work.

For the suction end of spray pumps our Hard Rubber Suction Hose (price list on page 66) is eminently suitable.

### PRICE LIST

$\frac{3}{8}$ inch, 3-ply, per foot \$ .20	$\frac{1}{2}$ inch, 5-ply, per foot \$ .37
$\frac{1}{2}$ inch, 3-ply, per foot .25	$\frac{1}{2}$ inch, 7-ply, per foot .55

## Coke Hose

For use in cooling coke as it is removed from the ovens. Usually a heavy wall hose, customary size being 1 inch 9-ply, but made in various weights. Will not kink and warranted to resist to the maximum the hard service which it necessarily receives.

### PRICE LIST

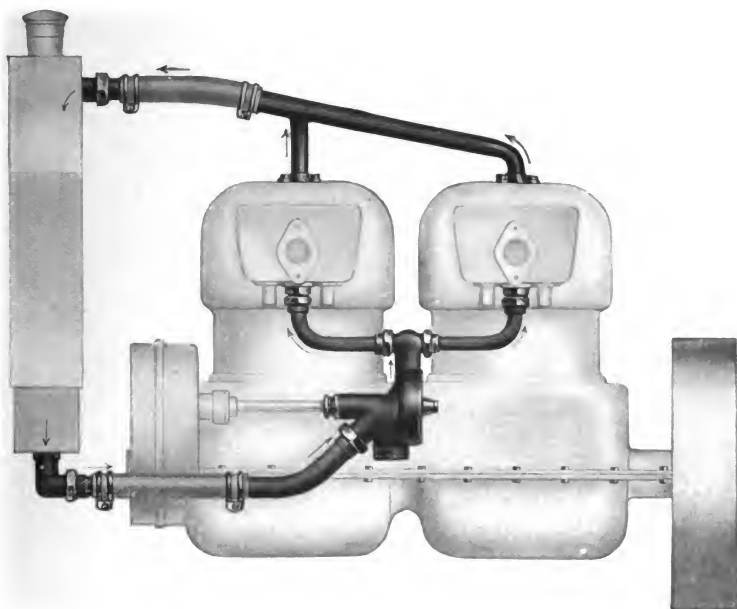
1 inch, 9-ply, per foot, 60 cents

## Magic Coke Hose

Our Magic Continuous Length Coke Hose has proven the fallacy that a multiple-ply hose is necessary for this service. Its great flexibility, thick cover, and imperviousness to kinking, as well as the fact that each of its braided insertions must be worn through before the hose becomes useless, make it the most economical Coke Hose from a service viewpoint.

### PRICE LIST

1 inch, per foot, 40 cents



## Automobile Radiator Hose

This is not an ordinary water hose, but made of specially selected stocks in grades suitable for hot water, or with oil-proof cover if desired. The hose is usually constructed two-ply, and either short straight lengths with capped ends or bent to any shape desired. Nothing better for the purpose is made.

Carried in stock in 10-foot lengths.

### PRICE LIST

Size In.	1-ply Per Ft.	2-ply Per Ft.	3-ply Per Ft.	4-ply Per Ft.	Size In.	1-ply Per Ft.	2-ply Per Ft.	3-ply Per Ft.	4-ply Per Ft.
$\frac{1}{2}$	\$ .30	\$ .38	\$ .47	\$ .56	$1\frac{5}{8}$	\$ .71	\$ .88	\$1.10	\$1.35
$\frac{5}{8}$	.34	.42	.52	.64	$1\frac{3}{4}$	.75	.94	1.18	1.45
$\frac{3}{4}$	.37	.46	.57	.71	$1\frac{7}{8}$	.81	1.01	1.26	1.56
$\frac{7}{8}$	.41	.51	.64	.79	2	.86	1.07	1.34	1.66
1	.45	.56	.70	.87	$2\frac{1}{8}$	.91	1.14	1.42	1.77
$1\frac{1}{8}$	.50	.62	.78	.96	$2\frac{1}{4}$	.96	1.20	1.50	1.87
$1\frac{1}{4}$	.54	.68	.85	1.04	$2\frac{3}{8}$	1.01	1.27	1.58	1.98
$1\frac{3}{8}$	.60	.75	.94	1.15	$2\frac{1}{2}$	1.06	1.33	1.66	2.08
$1\frac{1}{2}$	.66	.82	1.02	1.25					

## Divers' Hose

Made with extra heavy walls to prevent collapsing and kinking; very strong and flexible, and of floating or non-floating stocks. Every section is put through a most rigid examination and test before it leaves the factory, to insure freedom from defects.

### PRICE LIST

$\frac{1}{2}$  inch, per foot 70 cents

## Oil Hose

One of the hardest problems of rubber making has been to build a hose of rubber that would successfully resist oil—its natural disintegrator. Unless the rubber is properly compounded and mixed with the proper minerals, the action of oil would very quickly destroy it. Our Oil Hose is the result of many years' study and experimentation, which has resulted in the nearest approach to a permanent oil-resisting stock yet devised. A trial will prove its economy. Made for either discharge or suction.

### Regular Brands

Double Diamond

Carbon

Oil Discharge Hose, same as Steam Hose list, page 49.

Oil Suction Hose, same as Suction Hose list, page 64.

**Hot Lard Hose      Sand Blast Hose      Wine Hose**

**Tanners' Hose      Whitewash or Paint Hose**



Equitable Life Assurance Building, New York

## Fire Hose

Manufactured in various qualities and many styles, as described in the following pages, to meet all existing requirements.

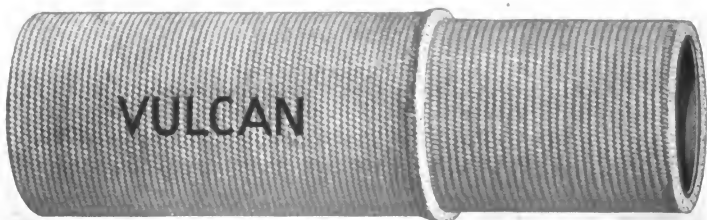
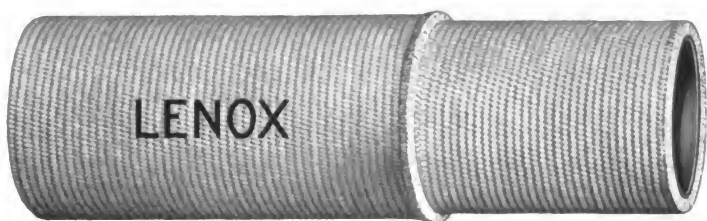


**Test**—The cotton duck in Test Fire Hose is specially woven, of great strength and carbolized to prevent rot or decay. The rubber is finest Para, compounded with such ingredients as will produce maximum strength and life. Ends are reinforced and capped; while soft and flexible it will not contract or twist under pressure. Guaranteed to 400 pounds test pressure.

**Delta**—A hose of good quality, fully warranted but not quite so costly as "Test." Guaranteed to 300 pounds test pressure.

### PRICE LIST—RUBBER FIRE HOSE

Size, Inches	3-ply Per Foot	4-ply Per Foot	5-ply Per Foot	Size, Inches	3-ply Per Foot	4-ply Per Foot	5-ply Per Foot
1½	\$ .60	\$ .75	\$ .93	2½	\$1.00	\$1.25	\$1.56
2	.80	1.00	1.25	3	1.20	1.50	1.87



## Cotton Rubber-lined Fire Hose

### Dragon

Our heaviest, double jacket, cotton Fire Hose. Is circular woven, soft and pliable, yet of great strength, and designed for service in the heaviest departments. The tube is of high grade rubber, free from corrugations and seams. Guaranteed to 400 pounds test pressure.

### Lenox

A double jacket Fire Hose similar in construction to Dragon, and while lighter in weight is suitable for service in any department. Guaranteed to 400 pounds test pressure.

### Aetna

A knit, double jacket Fire Hose, soft and pliable and of highest grade stocks. Of about the same weight as Lenox but preferred by many departments on account of this style jacket. Guaranteed to 400 pounds test pressure.

### Vulcan

A double-jacketed, circular woven hose, similar to Lenox, but of finer and harder weave. Makes a slightly stiffer hose, but one preferred by many departments for this reason. Guaranteed to 400 pounds test pressure.





## Cotton Rubber-lined Fire Hose

(Continued)

### **Delta**

Our best grade single jacket, circular woven Fire Hose, rubber lining compounded from highest grade stocks and fully guaranteed. Especially suited for departments of moderate size. Guaranteed to 400 pounds test pressure.

### **Vulcan**

A single-ply circular woven Fire Hose of same general makeup as Vulcan double jacket but without the extra jacket reinforcement. An exceptionally stiff weave for a single-ply hose. Guaranteed to 400 pounds test pressure.

### **Cable**

A single-ply, knit Fire Hose, similar to the Aetna, but without the jacket, consequently, lighter in weight and also lower in cost. Designed for use in town and village departments. Guaranteed to 300 pounds test pressure.

### **Czar**

A single-ply, circular woven Fire Hose, of excellent quality, but lighter in weight than our other brands. Designed for service in light departments, also for mill or factory protection. Guaranteed to 300 pounds test pressure.

## Cotton Rubber-lined Mill Hose

**Afmic**

Our Underwriters' Cotton Rubber-lined Mill Hose, approved and accepted. Users of Afmic have the satisfaction of knowing that their hose will pass the most rigid inspection with a safe margin, and can be relied upon in any emergency. The life of Mill Hose is usually one of inactivity, and only the best of materials can stand the deteriorating effects of age. A hose that costs a little more at first but that is ready to perform its work when emergency calls, is really more economical in the end.

**Double Diamond**

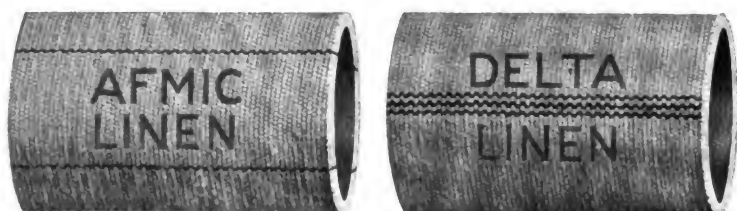
An exceptionally high grade hose, and with proper care will give years of satisfactory service. An especially strong woven jacket lined with high grade rubber tube free from corrugations or seams. Guaranteed to 300 pounds test pressure.

**Carbon**

Our lightest weight Mill Hose, designed to meet the demand for a moderate priced hose that will give good service. A smooth tube of first quality rubber, and warranted not to crack or break if properly used. Guaranteed to 300 pounds test pressure.

**COTTON RUBBER-LINED MILL HOSE****PRICE LIST**

Size, 1¼ inches, per foot \$ .45	Size, 2½ inches, per foot \$ .80
Size, 1½ inches, per foot .50	Size, 3 inches, per foot 1.10
Size, 2 inches, per foot .65	



## Linen Hose

Linen Hose is designed for fire protection for hotels, theatres, public buildings, apartment houses, etc. Exceptionally light and strong, and occupies but little space. Our Linen Hose is admitted by expert authority to be superior in quality, strength and construction to any other Linen Hose made. Carried in stock in all sizes in three grades and up to 300-foot lengths.

### Afmic

Our first quality Underwriters' Unlined Linen Fire Hose, approved and accepted. The distinguishing mark, four blue lines running longitudinally and equidistant apart.

### Delta

Our second quality Underwriters' Unlined Linen Hose, approved and accepted. Distinguishing mark two blue lines running longitudinally, separated by a red line.

### Rubber-lined Linen Hose

All grades of Linen Hose can be furnished rubber lined if desired.

## PRICE LIST—LINEN HOSE

Internal Diameter Inches	Unlined Per Foot	Rubber-lined Per Foot	Internal Diameter Inches	Unlined Per Foot	Rubber-lined Per Foot
1	\$ .24	\$ .36	2	\$ .34	\$ .54
1¼	.27	.40	2¼	.37	.59
1½	.30	.44	2½	.40	.65



Air Brake Hose Department at Factory, Passaic, N. J. Capacity, 45,000 Pieces of Air Brake Hose Weekly



## Air Brake and Signal Hose

The first Air Brakes put into service were equipped with our hose, and we can truthfully claim to be the originators of Air Brake and Air Signal Hose. The service is necessarily severe and as the safety of many lives constantly depends on the strength of the Rubber Hose, the most rigid care in the selection of materials and make-up of the hose is exercised.

We have for many years manufactured Air Brake and Signal Hose for the largest railroad systems in the country, and are prepared to furnish hose manufactured in accordance with railroad or Master Car Builders' specifications.

### PRICE LIST

Size, Inches	3-ply, per Foot	4-ply, per Foot
1	\$ .70	\$ .87
1 $\frac{1}{8}$	.78	.96
1 $\frac{1}{4}$	.85	1.04
1 $\frac{3}{8}$	.94	1.15



## R. R. S. Hose

An Engine and Tender Hose for connection between tank and boiler injector. The style of hose is made in either straight or curved shape, in lengths as specified. Is corrugated on the outside and has a round spiral helix imbedded in the wall. The hose has great flexibility and cannot collapse. An extra heavy rubber cover prevents external damage.

### PRICE LIST

Size, Inches	Per Foot	Size, Inches	Per Foot
2	\$1.00	2 $\frac{3}{4}$	\$1.37
2 $\frac{1}{4}$	1.12	3	1.50
2 $\frac{1}{2}$	1.25		



## Boiler Washout Hose

Our Boiler Washout Hose is adaptable for use with either steam or hot water. Made in our Indestructible construction, it does not require extra reinforcement of marline or wire on the outside.

### Indestructible Steam and Hot Water Washout Hose

Is guaranteed superior to any Washout Hose on the market and is being largely used by the principal railroad systems in the country.

### PRICE LIST

Size, Inches	4-ply. per Foot	5-ply. per Foot
1 $\frac{1}{4}$	\$1.04	\$1.30
1 $\frac{1}{2}$	1.25	1.56
1 $\frac{3}{4}$	1.45	1.81
2	1.66	2.07
2 $\frac{1}{4}$	1.87	2.33
2 $\frac{1}{2}$	2.08	2.60



## Boiler Washout Hose

(Continued)

### Indestructible Hot Water Washout Hose

Differs from the Steam and Hot Water Washout Hose in quality and weight, the rubber stock being compounded for hot water service and not as heavy gauges as the Steam and Hot Water Washout Hose. The best hose ever placed on the market for the service for which it is designed.

#### PRICE LIST

Size, Inches	4-ply, per Foot	5-ply, per Foot
1¼	\$ .85	\$1.04
1½	1.02	1.25
1¾	1.18	1.45
2	1.34	1.66
2¼	1.50	1.87
2½	1.66	2.08

Washout Hose is also made in regular wrapped duck construction if desired and to special specifications.

## Vacuum Brake Hose

Made of high grade stock and with steel wire helix imbedded in the wall, corrugated on the outside and very flexible. Guaranteed absolutely air tight and not to collapse in service. Made in all sizes and in any length required, with soft ends for attaching fittings.

#### PRICE LIST

Size, Inches	Per Foot	Size, Inches	Per Foot
1½	\$ .75	2½	\$1.25
1¾	.87	2¾	1.37
2	1.00	3	1.50
2¼	1.12		



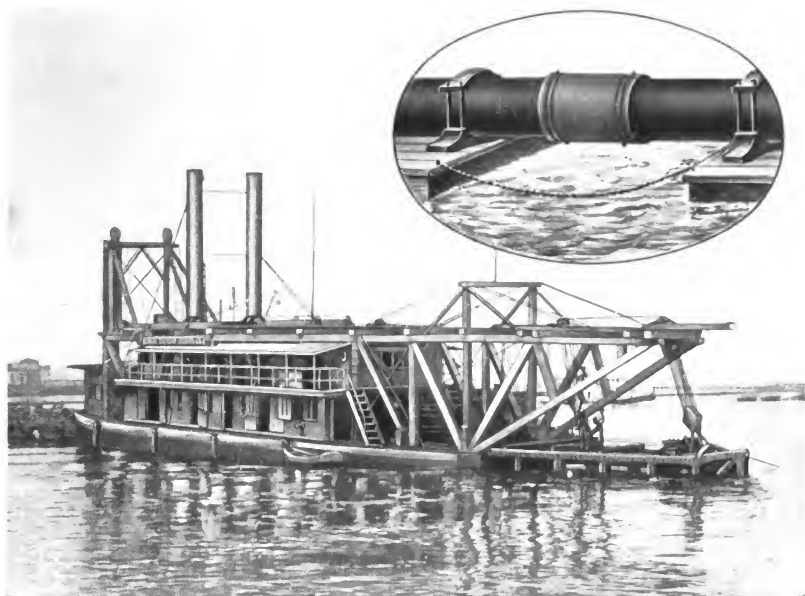
## Car Heating Hose

This hose is made in straight "S," "U" or "J" shape and in short lengths with capped ends. It is designed for conveying steam between passenger cars and locomotives. It can be furnished if desired with wire helix and corrugated on the outside to give greater flexibility and prevent possibility of kinking. We recommend our Car Heating Hose as being of superior quality, but are also prepared to manufacture Car Heating Hose in accordance with railroad's own specifications.

### PRICE LIST

Internal Diameter Inches	4-ply Per Foot	5-ply Per Foot	6-ply Per Foot
1¼	\$1.04	\$1.30	\$1.56
1⅝	1.10	1.37	1.64
1¾	1.15	1.43	1.72
1½	1.25	1.56	1.87
1⅝	1.35	1.69	2.02
1¾	1.45	1.81	2.17
2	1.66	2.07	2.49





## Dredging Sleeves

Dredging Sleeves are used to form a flexible connection between sections of iron pipe forming a line from the dredge in the river or harbor to the land or to some place of discharge for the material dredged.

The constant motion of the pontoons in the sea-way and the liability of the Sleeves sometimes becoming clogged, thus subjecting them to great strain, often results in their breaking or bursting, and the cutting and abrasive qualities of the material—sand, rock and shells—passing through the Sleeves destroys the inner rubber lining, thus permitting moisture to get between the plies of duck, causing it to mildew and rot.

To furnish a Sleeve that will successfully withstand the above conditions has been the subject of our very careful research and study for many years, with exceptionally gratifying results.

Our Dredging Sleeves are constructed on scientific principles from a thorough knowledge of the conditions of service. The rubber is of special compound to resist the abrasion of material pumped, the cotton duck is woven specially and extra heavy, being the strongest procurable, and is built into the Sleeves by our own secret process, to give still greater strength and prevent expansion while preserving the required flexibility. Not the cheapest on the market, but by far the most economical to use. Manufactured in any size desired from 10 inches to 48 inches internal diameter, and in any length.

### List Price per Lineal Foot for Each Inch of Internal Diameter

Tube, Inch	8-ply	10-ply	12-ply	14-ply	15-ply
$\frac{1}{8}$	\$1.40	\$1.66	\$1.92	\$2.20	\$2.36
$\frac{3}{16}$	1.50	1.76	2.04	2.35	2.50
$\frac{1}{4}$	1.65	1.92	2.20	2.50	2.62

## Useful Rules

### To Find

Diameter of circle: Multiply circumference by .31831.

Circumference of circle: Multiply diameter by 3.1416.

Area of circle: Multiply square of diameter by .7854.

Surface of a sphere: Multiply square of diameter by 3.1416.

Cubic inches in a sphere: Multiply cube of diameter by .5236.

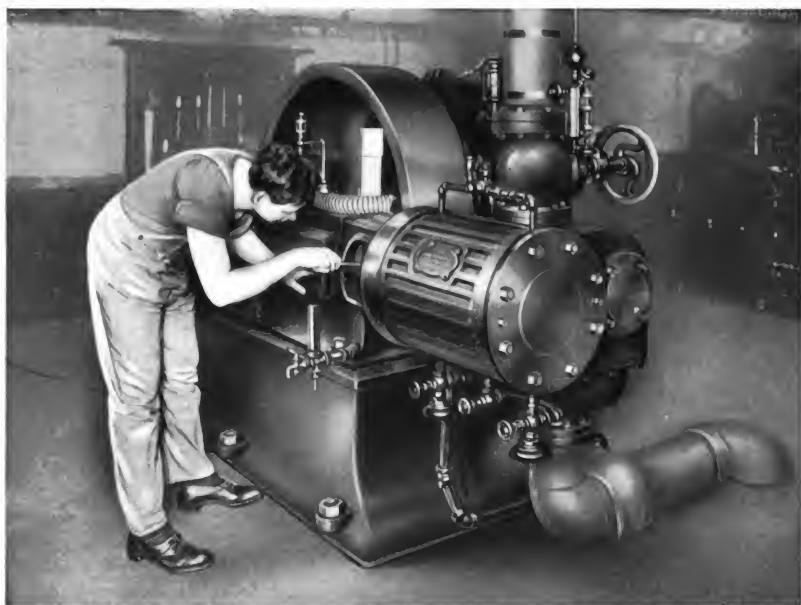
Doubling the diameter of hose increases its capacity four times.

## A Convenient Table for Discount Workers

To ascertain net cost, list price and discount being given, multiply list by decimal corresponding to discount in following table:

Rate %	20	25	30	33 1/4	35	40	45
2 1/2....	.78	.73125	.6825	.65	.63375	.585	.53625
5....	.76	.7125	.665	.633333	.6175	.57	.5225
5, 2 1/2.....	.741	.6947	.6484	.6175	.6021	.55575	.5094
7 1/2....	.74	.69375	.6475	.616667	.60125	.555	.50875
7 1/2, 2 1/2....	.7215	.6764	.6313	.60125	.5862	.5411	.496
7 1/2, 5.....	.703	.6591	.6151	.585833	.5712	.52725	.4833
10....	.72	.675	.63	.6	.585	.54	.495
10, 2 1/2.....	.702	.6581	.61425	.585	.5704	.5265	.4826
10, 5.....	.684	.64125	.5985	.57	.55575	.513	.47025
10, 7 1/2.....	.666	.6244	.58275	.555	.5411	.4995	.4579
10, 10.....	.648	.6075	.567	.54	.5265	.486	.4455
10, 10, 5....	.6156	.5771	.5386	.513	.5001	.4617	.4232
10, 10, 5, 2 1/2	.60021	.56267	.52514	.50018	.4876	.45016	.41262
Rate %	50	55	60	65	70	75	80
2 1/2....	.4875	.43875	.39	.34125	.2925	.24375	.195
5....	.475	.4275	.38	.3325	.285	.2375	.19
5, 2 1/2.....	.4631	.4168	.3705	.3242	.2779	.2316	.18525
7 1/2....	.4625	.41625	.37	.32375	.2775	.23125	.185
7 1/2, 2 1/2....	.4509	.4058	.36075	.3157	.2706	.2255	.18038
7 1/2, 5.....	.4394	.3954	.3515	.3076	.2636	.2197	.17575
10....	.45	.405	.36	.315	.27	.225	.18
10, 2 1/2.....	.43875	.3949	.351	.3071	.26325	.2194	.1755
10, 5.....	.4275	.38475	.342	.29925	.2565	.21375	.171
10, 7 1/2.....	.41625	.3746	.333	.2914	.24975	.2081	.1665
10, 10.....	.405	.3645	.324	.2835	.243	.2025	.162
10, 10, 5 . .	.3847	.3462	.3078	.2693	.2308	.1923	.1539
10, 10, 5, 2 1/2	.37508	.33754	.30011	.26257	.22503	.18749	.15005

Example: List \$6.93, discount 35, 7 1/2, 2 1/2%. Decimal .5862 × \$6.93 = \$4.062366 net cost.



## Packings

Steam Packings were manufactured by this company in 1846, and since that time constant efforts have been put forth to keep our line foremost. Where formerly half a dozen different styles answered all purposes, the present method of running machinery at high speed and the excessive temperatures generated, necessitate a special packing for each class of service. We control valuable patents covering the most important and best packings in service to-day which, combined with skilled labor and proper combination of materials, make our line complete and adapted to meet all conditions. No one packing is suitable for all conditions of service, but the experts in charge of this department will cheerfully furnish the knowledge necessary to specify the right material, and their advice will cost you nothing.

All packings carried in stock in standard sizes as listed.



Style 203



Style 102



Round—Style 2  
Square—Style 3

## Cobbs High Pressure Piston Rod and Valve Stem Packing

110 to 175 Pounds Pressure

Cobbs Piston and Valve Stem Packing is the invention of Mr. J. H. Cobb, President of the New York Belting & Packing Co., and a practical mechanical rubber expert for the past forty years. It is made with a rubber core of an oil and heat-resisting compound, which is covered with a well-frictioned duck and an outer covering of fine asbestos, closely braided. It is guaranteed not to become hard or to score the rods, but to remain elastic under all conditions; the rubber core being in the centre assures an even pressure of the packing against rod and stuffing-box. Cobbs Packing is suitable for Stationary and Marine Engines, Corliss Valves, Throttle Valves, Air Pumps, Air Compressors, and Steam Feeds in saw-mills, etc. It is made both round and square, in spiral form and in rings, registered, patented and manufactured solely by the New York Belting & Packing Co., New York.



## **Magic Rubber Cushion Diagonal Expansion Packing**

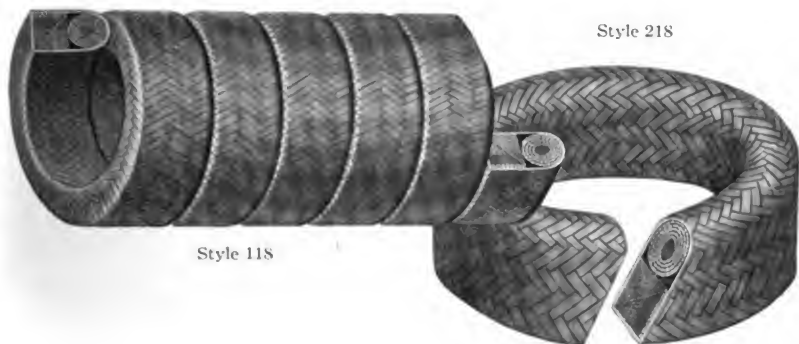
To 125 Pounds Pressure

Magic Packing is filled with the best cold lubricant that can be procured. This gives it the appearance of being a hard packing, but when warmed slightly by laying on the cylinder head for a few minutes, it softens just sufficiently to make it a most desirable packing.

Gives best results on piston rods, valve stems, water and steam hammers, and especially on plungers on outside packed plunger pumps. In ordering Magic Packing please give the style number, or for what service it is intended. Carried in stock in all sizes from  $\frac{1}{4}$  to 1 inch; larger sizes made to order.

Price per pound, Spiral \$1.75

Price per pound, Rings 2.00



## Magic Diagonal High Pressure Packing

125 to 160 Pounds Steam Pressure

Differs in construction from our Magic Diagonal Expansion Packing, the flax cushion being replaced by a duck cushion having a round rubber core made of the same compound as is used in our celebrated Cobbs Packing. This construction gives it not only the expansive features found in Cobbs High Pressure Packing but the additional advantage of a wedge packing should the rod be worn. Magic Diagonal Packing is twice as deep as it is wide, consequently fewer rings are used. The round cushion must enter the stuffing box first, that of the last ring should be against the gland.

Besides steam purposes our Styles 118 and 218 are very desirable for pumps pumping hot water or outside packed plunger pumps, and also on high pressure ammonia compressors.

### Magic, Style 120

The only difference in this type of Packing is that the soft cushion is asbestos and is only intended for high pressure steam from 125 to 175 pounds.

In ordering state what service it is intended for and give style number.

Put up in spiral form in boxes.

Price per pound, Spiral \$1.75

Price per pound, Rings 2.00



Spiral, Style 1003      Coil, Style 1002

## **B. & P. Brand H. P. Gum Cushion Asbestos Piston and Valve Rod Packing**

Suitable for Steam, Gas and Air Pressure  
150 Pounds and Over

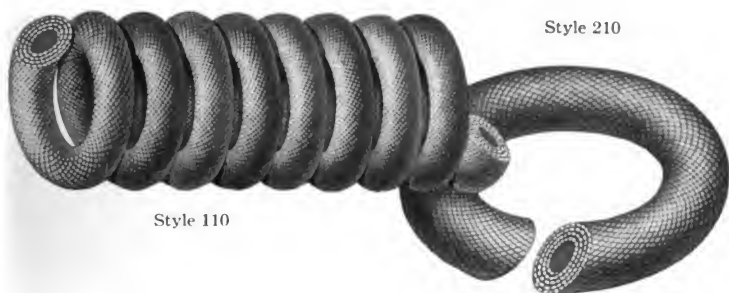
The tendency of the modern engine is towards extremely high pressures and superheat, which will burn and blow out ordinary fibrous packings. To overcome these severe conditions, we offer our B. & P. High Pressure Packings in coil, spiral and ring form. It is especially suitable for marine work, locomotive piston rods, throttle valves and air pumps, high pressure stationary and marine engines, and all places where superheated steam is used.

Price per pound, Coil    \$1.50

Price per pound, Spiral    1.75

Price per pound, Rings    2.00





## Crocoite Packing

Pressure to 150 Pounds

We fully realize the difficulty of securing a tough and yet elastic spiral and ring packing which is impervious to cylinder and lubricating oils. The rubber core in Crocoite Packing will maintain its elastic qualities and the packing will not become hard. The round shape forms cells to take care of condensation.

Our Crocoite Packing is made with a red core, and while it is a steam packing, it gives splendid results when the rods are working in oil, and will maintain the pressure on oil pumps supplying lubrication to turbine engines.

It is made in all sizes and carried in stock from  $\frac{1}{4}$  inch to  $1\frac{1}{4}$  inches.

Price per pound, Spiral \$1.75

Price per pound, Rings 2.00



Style 101



Style 201



Style 1

## Graphon Low Pressure Piston and Valve Rod Packing

Suitable for Steam Pressure to 100 Pounds

For steam, ammonia, gases, hot or cold water, in Spiral, Plain and Sectional Cup Rings. We realize the necessity of lubricating this style of packing for the particular uses to which it will be applied, and after years of study and experiment we have discovered a process of lubrication for steam, air, gas and ammonia, which gives our Graphon Packing the enviable position of second to none. For worn rods, or rods that are not centered, no better packing could be selected.

Graphon Rings are also made in combination sets for high service ammonia compressors.

In sending sizes of rods and stuffing boxes, state the class of work for which they are intended, as we make considerable difference in the lubrication when used for steam and ammonia.

Carried in stock in sizes from  $\frac{1}{8}$  inch to  $1\frac{1}{4}$  inches.

Price per pound, Spiral \$1.50

Price per pound, Rings 2.00

## Steam Hammer and Special Shaped Rings

Style 207

These are made of our Graphon stock and are thoroughly lubricated with a special compound. Made in any shape desired, either octagonal, round or flat side. In ordering, please send drawing giving exact measurements to insure perfect fit.

Price per pound, \$1.50.



## Vulcan High Pressure Packing

110 to 175 Pounds Pressure

Is made of a very fine quality of duck, well frictioned, with the edge of duck against the rod, making the best kind of wearing surface. It also has a rubber cushion, which, when heated, will expand and force the duck against the rod, which has a tendency to steady it if it is a vibrating rod. The cushion is protected by a layer of duck which prevents it from sticking to the stuffing box.

Vulcan High Pressure Packing is particularly serviceable on direct connected dynamo engines, high speed engines, rock drills, steam niggers in saw mills, etc., particularly where there are vibrating rods, which are difficult to hold.

It is thoroughly lubricated with the finest grade of plumbago, and cannot possibly score a rod.

Vulcan Rings when made into combination sets with other packings give the necessary expansion.

Carried in stock in all sizes from  $\frac{1}{4}$  inch to 1 inch.

When ordering give diameter of rod and inside diameter of stuffing box.

Price per pound, Spiral \$1.75

Price per pound, Rings 2.00



## Waterproof Hydraulic Packing

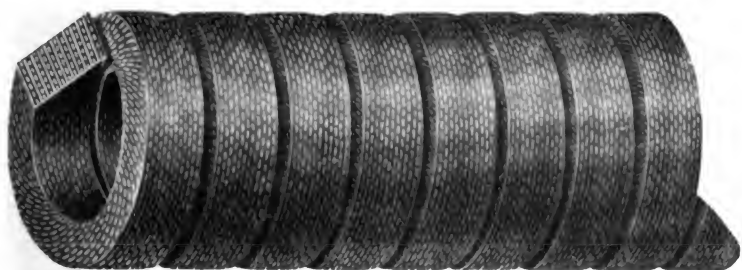
For Cold Water up to 3,000  
Pounds Pressure

This is strictly a waterproof high pressure packing made from long fibre flax which is thoroughly lubricated according to our secret process, making it impervious to water. It is guaranteed to 3,000 pounds pressure and is most serviceable on high pressure pumps of all kinds, deep mine work, cold water pistons, elevator cylinders, plungers on cold water pumps, coal oil, brine, stern glands, etc.

Carried in stock in all sizes from  $\frac{1}{4}$  inch to  $1\frac{1}{4}$  inches.

Price per pound, Spiral \$1.50

Price per pound, Rings 1.75



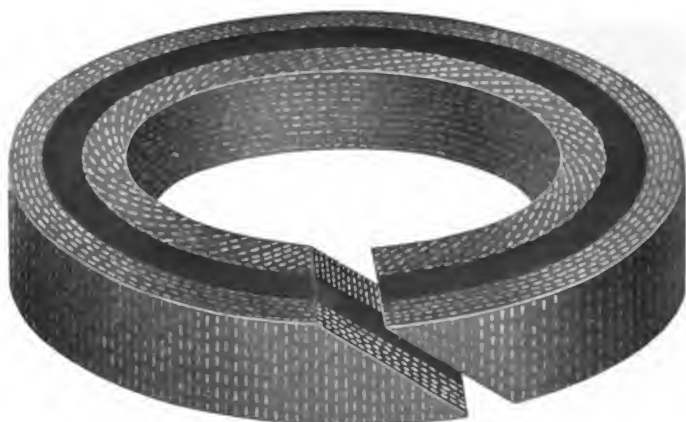
Style 115

## **Double Diamond Hot Water Spiral Plunger Packing**

For Hot Water Pumps

This packing has been specially prepared to meet the demands of engineers for a Hot Water Packing that will perfectly fit the plunger, doing away with the annoyance and inconvenience of soaking it in boiling water to form it into rings, as is the case with the straight hydraulic packing. In addition to this money-saving proposition, owing to its spiral form or cut ring form, the slight expansion is taken care of and consequently does not bind the pump. This packing is manufactured of selected cotton duck and high grade rubber, and in the most approved manner; it is unquestionably an ideal Hot Water Packing.

Price per pound, \$1.50.



Style 213

### **Elastic Expansion Ring Packing**

The Elastic Expansion Ring, while similar to the construction of the Vulcan, differs quite materially in the results obtained. The Elastic Expansion Ring, having the cushion in the center of the packing, creates an expansion from the center both ways.

The cushion of the packing, which comes in contact with the rod, is composed of layers of fine duck, so arranged that the thread edges bear against the rod, giving the very best kind of a wearing surface. The lubricant used in this packing is the very best that can be produced. The construction of this ring is very desirable, particularly in making up combination sets of two or more packings.

When ordering give diameter of rod and inside diameter of stuffing box.

Price per pound, \$2.00.



## Oval Gum Core Piston Rod Packing

Less than 100 Pounds Pressure

**Double Diamond, Style 106**

**Carbon, Style 107**

This packing is made with an oval or round soft gum core, with long fine braided flax cover, thoroughly saturated with a durable lubricant. It is an old style packing made for old type engines with badly scored rods, and deep stuffing boxes. The advantage of this style packing is that the material used in its construction will permit any amount of gland pressure being used without burning it up. It is made in coils, packed in boxes. For the convenience of large plants, we put the large sizes,  $1\frac{1}{4}$  inches and over, on reels of 50 to 200 pounds.

Price per pound, 75 cents.



Style 1830

## Cobbs Air Pump Packing

Cobbs Air Pump Packing is made of the same material and construction as our Cobbs Spiral and Ring for all sizes of Westinghouse and New York Air Pumps. It is guaranteed to 175 pounds pressure. For greater pressure we recommend our B. & P. Asbestos Rings. Cobbs Rings are also made in combination sets with other rings when necessary, to meet difficult conditions.

Do not fail to give the name and size of the pump when ordering.

## B. & P. Air Pump Packing

Is strictly a non-metallic set made similar to our Style 1821 Throttle Packing. Is thoroughly lubricated and will hold its elasticity under the most severe conditions of service.



Style 1831

Where conditions are such that some other kind of air pump packing is desirable we have Styles 1832, 1833, 1834, 1835, 1836, for details of which see Engineers' Catalogue.

Price per pound of all Air Pump Packing, \$2.00.





Style 1821

## B. & P. Throttle Packing

A good Throttle Packing must be not only heat-resisting, but must absorb and retain its lubrication and not harden on the rods. For general use we recommend Style 1821, it being a non-metallic set consisting in part of our B. & P. Asbestos Ring and Turxo Ring, making a soft thoroughly lubricated cushion packing that will not score the rods. When ordering specify outside dimensions of rod, inside dimensions and depth of box.

## Cobbs Throttle Packing

Is similar to Cobbs High Pressure Spiral and Rings. The rubber core is an oil and heat-resisting compound, covered with well frictioned duck and an outer cover of braided asbestos. For pressures up to 175 pounds.

There are other conditions which may require different treatment, hence we make six different styles and types of Throttle Packings: Nos. 1822, 1823, 1824, 1825, 1826. For details see Engineers' Catalogue.

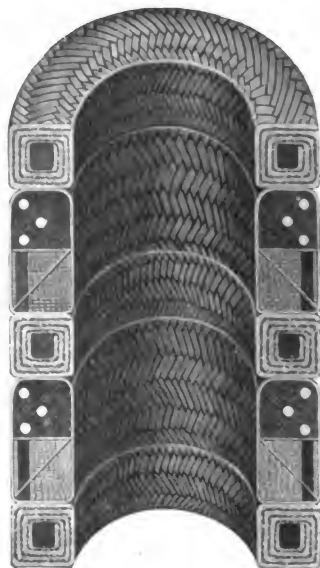
Price per pound of all Throttle Packings, \$2.00.



Style 1820



Style 530



Style 529

## Combination Packings

We show above but two styles of Combination Packing, but we have combination sets for all special conditions of service for pumping gritty water, for scored rods and rods not centered, for vibrating rods, for cotton seed and linseed oil mills, and all classes of service where conditions are such as to be unsuited to a standard piston packing. Furnish us details of your problems and we will combine packing sets to do the work satisfactorily.

## Cake Former Ram Packing

### Style 534

This packing is particularly adapted for shallow stuffing boxes, and will withstand very high pressures. It is a combination of B. & P. Asbestos and Sectional or Plain Graphon Rings.

## Hydraulic Packing Rings

For Cotton Compressors, Elevators, and Hydraulic Presses of all kinds

Made in U or half U shape and constructed of strong, specially woven duck, united by exceptionally tough rubber—the result of twenty years' experience in manufacturing these rings.

Our assortment of moulds is complete, covering practically every size and shape used, and enabling us to make quick delivery of rings at bottom prices.

When ordering send sketch giving cross section and all dimensions.

Price per pound, \$2.50.



Style 52

## Para Flax

Is the highest grade of Russian flax that can be procured, and is guaranteed to be free of hemp or tow. It has superior wearing qualities to any other high grade flax on the market. Made in all sizes, sixteenths and eighths, from  $\frac{1}{4}$  inch to 3 inches.

Price per pound, \$1.00.

## Double Diamond Flax

Style 9

Is made of a fine long line flax, free from hemp or jute, and is made in all sizes, sixteenths and eighths, from  $\frac{1}{4}$  inch to 3 inches.

Price per pound, 85 cents.

## Carbon Flax

Style 53

Is made of the same fine quality flax as our Double Diamond, Style 9, except that the fibre is shorter and not so well combed. It is lubricated with the same high grade lubricant, which adds materially to the wearing qualities. Made in all sizes, sixteenths and eighths, from  $\frac{1}{4}$  inch to 3 inches.

Price per pound, 75 cents.



Style 252



Style 251

## Turxo Globe and Angle Valve Packing

### Turxo Twist, Style 251

Is made of the finest quality of long fibre asbestos, each strand being thoroughly lubricated with a special lubrication and then twisted. Made in all sizes from  $\frac{1}{16}$  inch to 1 inch, and wound on metallic spools, holding one, two or five pounds each.

Price per pound, \$1.50.

### Turxo Braid, Style 252

Is made of the same quality material as Turxo twist, but has a braided cover, making a soft, durable, heat-proof packing. Made in all sizes from  $\frac{1}{8}$  inch up to 1 inch and wound on metallic spools holding one, two or five pounds each.

Price per pound, \$1.65.

### Turxotine Braid, Style 253

Has the same fine quality asbestos in its construction as the Turxo. Each strand is coated with rubber and vulcanized, over which an asbestos jacket is woven, making a firm, but soft valve stem packing, lubricated with a dry lubrication. Made in same sizes and packed as Turxo Braid.

Price per pound, \$1.80.

## Round and Square Hydraulic Packing

Our Square Tucks Hydraulic Packings are made in the following styles and qualities:

### Style 4

**Double Diamond Square White Friction**

Price per pound, \$1.00.

### Style 8

**Double Diamond Square Black Friction**

Price per pound, 85 cents.

### Style 40

**Spider Square Black Friction**

Price per pound, 85 cents.

### Style 41

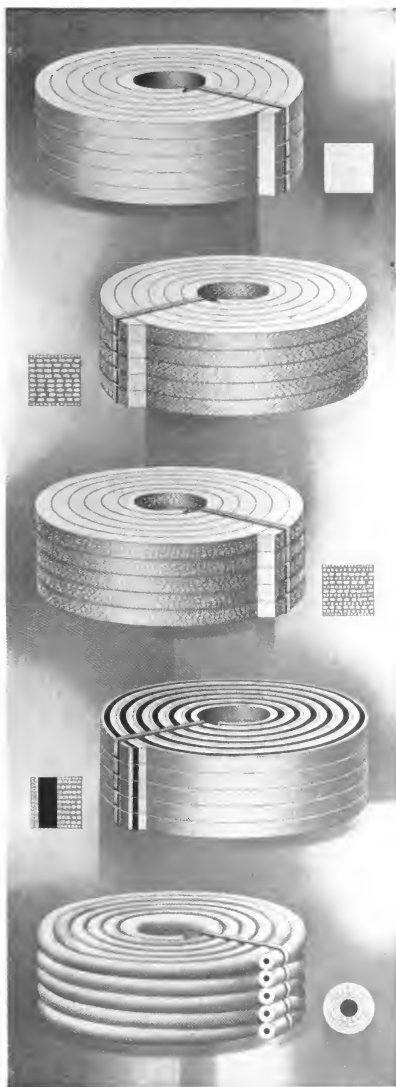
**Square Rubber Back Black Friction**

Price per pound, \$1.00

### Style 42

**Round Tucks Black Friction**

Price per pound, 85 cents.



We also make Square Hydraulic Packing medium hard and rock hard, medium hard to be used on hot water to 200 degrees, and rock hard for boiling water. Our Hydraulic Packing is made in 20-foot lengths in all sizes from  $\frac{1}{4}$  to 2 inches.



Style 250

## Special Hydraulic Rings

For Hot or Cold Water

Are made of fine duck well frictioned, and are accurately cut as to size, either solid, step joint, or bevelled, and can be readily split to fill the stuffing box exactly. Can be finished soft, medium hard, and rock hard. The former are for cold water pumps, medium hard for hot water and rock hard for boiling water, particularly on inside packed pumps. Boiling water will not swell or disintegrate them.

We also make this style of packing in coil and spiral.

The hydraulic rings are especially serviceable in combination with other packings, and when ordering be sure to give correct sizes and state what service they are intended for.

Price per pound, \$1.90.



Style 10

## Indestructible White Sheet Packing

Our Indestructible White Sheet Packing will stand very high steam pressure. Ammonia, naphtha, benzine, turpentine, gasoline, creosote, corn oil, etc., have no deleterious effect upon it; in fact, we can safely guarantee it for this service.

By adopting this sheet an engineer can do away with the annoyance of having several types of sheet packings to meet various conditions. Indestructible White Sheet Packing will practically meet any conditions of service it is put to.

This packing is carried in stock in sizes from  $\frac{1}{32}$  inch to  $\frac{1}{4}$  inch.

Price per pound, \$1.00.

### With Brass Wire Insertion, Style 29

### With Iron Wire, Style 30

For marine work, vibrating joints, or where there are but a few bolts in flange, or where the ports run close to the edge, and hard places to hold in general. Made  $\frac{1}{16}$  and  $\frac{1}{8}$  inch thick.

Price per pound, \$1.25.



Style 11

## Ruby Red Sheet Packing

This packing is made of a soft tenacious compound of red rubber that conforms to the inequalities of flanges and will not blow out under the highest pressures. In the hottest joint it remains soft and flexible, and can be removed and used again and again in the same joint, packing it as perfectly as when first inserted.

It also makes a perfect packing for hydraulic and cold joints of all kinds. It perfectly withstands the action of steam, alkalies, ammonia, etc.

The application of graphite to the face of the packing before use prevents adhesion to flanges and makes it easier to break the joint after use. Carried in stock from  $\frac{1}{32}$  inch to  $\frac{1}{4}$  inch, and 36 inches wide.

Price per pound, \$1.00.

### With Brass Wire Insertion, Style 31

Carried in stock  $\frac{1}{16}$  inch and  $\frac{1}{8}$  inch; 36 inches wide.

Price per pound, \$1.25.

## Special Red Sheet Packing

Style 18

If you desire a good red sheet at a moderate cost we would call your attention to our Special Red Sheet. The compound used in manufacturing this sheet makes it very soft and pliable. It will not dry out readily if kept in stock and compares very favorably with many of the high grade sheets of other manufacturers.

Price per pound, 85 cents.





Style 410

## Asbestos Metallic Sheet Packing

Is made of the pure Asbestos yarn, each strand of the warp and filler having two brass wires interwoven to give it strength. The sheet is then coated with a fine Para, non-vulcanizing compound, which adds to the firmness of the sheet. Furnished white both sides or one side graphited in widths of 40 inches, and in all thicknesses from  $\frac{1}{16}$  inch up, for high pressures and all purposes where the usual fibrous and rubber sheet packings would be destroyed by intense heat.

Price per pound, \$1.25.

## Automobile Sheet

Style 411

Is made similar to the Asbestos sheet but of a firmer and finer woven fabric. It is carried in stock in  $\frac{1}{32}$  inch, graphite one side and red on the other.

Price per pound, \$1.50.



Style 1846

## Firo Superheat High Pressure Sheet Steam Packing

Has every qualification the name implies, and for gas engines, automobiles, motor boats, steel plants, turbines, in fact any place where extraordinary high pressures and intense heat exist, Firo has no equal. Firo will never vulcanize, cannot burn or char in a joint, will not flatten out between the flanges when the bolts are drawn up and makes a positively permanent joint, insuring economy to the plant and safety to the workmen. It is absolutely non-absorbent. Firo is made in sheets 40 inches x 40 inches, 40 inches x 80 inches and 40 inches x 120 inches, in all thicknesses from  $\frac{1}{32}$  inch up.

A sheet 40 inches x 40 inches will weigh as follows:

$\frac{1}{32}$ inch thick.....	3 $\frac{1}{4}$ pounds
$\frac{1}{16}$ inch thick.....	6 $\frac{1}{2}$ pounds
$\frac{1}{8}$ inch thick.....	13 pounds

Price per pound, \$2.00.



Style 13

### **Salamanda Sheet Packing**

A high-grade self-vulcanizing packing. Because of its semi-cured condition it readily conforms to rough surfaces, and when subjected to heat hardens, making a secure, permanently packed joint.

It can be used between unfinished cast iron flanges, saving the cost of turning and planing.

Price per pound, 65 cents.

#### **With Iron Wire Insertion**

#### **Style 32**

Price per pound, \$1.00.



## Pure Sheet Rubber or Valve Gum

Made of high grade rubber compounds, suitable for strips and valves. Carried in stock from  $\frac{1}{64}$  inch to 1 inch thick, and 36 and 41 inches wide, special thickness and qualities made to order on two or three days' notice.

Price per pound, \$1.40.

## Pure Square Strip Packing

of same quality stock as sheet packing. Stock sizes from  $\frac{1}{4}$  to 1 inch, and in lengths of 20 feet.

Price per pound, \$1.40.

## Pure Cord or Round Rubber Packing

of a high grade rubber, very soft and flexible. Carried in stock in sizes  $\frac{1}{4}$  to 1 inch, and in 12-foot lengths.

### PRICE LIST

$\frac{1}{4}$ inch, per pound \$2.00	$\frac{5}{8}$ inch, per pound \$1.65
$\frac{3}{8}$ inch, per pound 1.75	$\frac{3}{4}$ inch, per pound 1.60
$\frac{1}{2}$ inch, per pound 1.65	$\frac{7}{8}$ inch, per pound 1.60
1 inch and larger, per pound \$1.50	



### Cloth Insertion Sheet Packing

For cold water and weather strips

We make three grades of superior quality of this packing in the following brands:

**Double Diamond, Style No. 33 Carbon, Style No. 34 Spider, Style No. 14**

In thicknesses of from  $\frac{1}{32}$  inch to  $\frac{1}{4}$  inch, 1-ply of sheeting to each  $\frac{1}{16}$  inch in thickness. Carried in stock cloth inserted, cloth one side, and cloth both sides, each layer of cloth counting as one ply.

#### PRICE LIST

Thickness Inch	1-ply Per Pound	2-ply Per Pound	3-ply Per Pound	Thickness Inch	2-ply Per Pound	3-ply Per Pound	4-ply Per Pound
$\frac{1}{64}$	\$ .70			$\frac{1}{8}$	\$ .55	\$ .58	\$ .61
$\frac{1}{32}$	.65			$\frac{3}{16}$	.....	.55	.58
$\frac{1}{16}$	.60	\$ .63	\$ .66	$\frac{1}{4}$	.....	.....	.55
$\frac{3}{32}$	.55	.58	.61				

### Diaphragm Sheet Packing

Style 35

Is made of a very high grade rubber on a specially woven fabric, of great strength, producing a most serviceable packing for diaphragm and gas service.  
Price per pound, \$1.40.

### Black Wire Insertion Sheet Packing

Style 36

Chiefly used in joints where C. I. Packing would be quickly burned out by heat or blown out by excessive pressure.  
Price per pound, \$1.00.



## **B. & P. High Pressure Asbestos Gaskets**

### **Style 260**

Made of pure asbestos yarn, closely woven. Each strand of the warp and filler is twisted around two fine brass wires and then coated with a non-vulcanizing rubber compound. It is absolutely heat proof, will not vulcanize or blow out under very high pressure. Made both in manhole and handhole sizes.

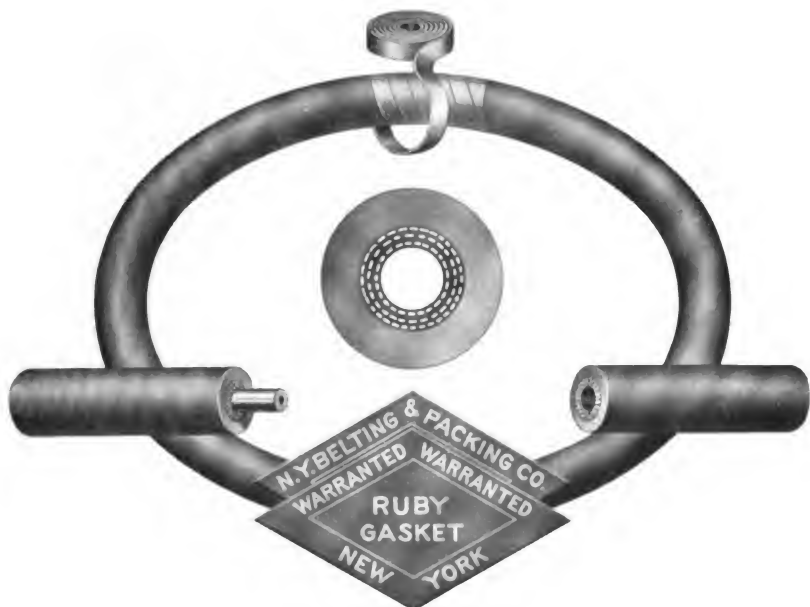
### **Style 261**

Heine Gaskets and Rings. Made to fit the tube plates of Heine water tube boilers. In ordering be sure to specify whether gaskets or rings are desired.

### **Style 262**

B. & W. Gaskets. Made to fit the tube plates of Babcock and Wilcox boilers. Be sure to specify whether oval or square gaskets are desired.

Price per pound, \$1.50.



Style 15

## Ruby Sectional Gasket

This packing is made of the well-known "Ruby" compound, a stock unexcelled as a universal packing. It is essentially a gasket for high temperatures and excessive pressures. It adapts itself readily to unevenness of flanges, will not harden, and may be used repeatedly, and, therefore, is the most convenient to use in joints that have to be frequently broken.

With a box of each size on hand the engineer can pack any joint perfectly without waste of material.

It is put up in neat boxes in the following sizes:  $\frac{1}{4}$  inch,  $\frac{3}{8}$  inch,  $\frac{1}{2}$  inch,  $\frac{5}{8}$  inch,  $\frac{3}{4}$  inch—with full instructions for use.

Larger sizes for special purposes made to order.

Price per pound, \$1.00.



## Cloth Inserted Gaskets

### **Double Diamond, Style 16**

Is made of a fine quality duck, well frictioned and moulded.

Price per pound, \$1.00.

### **Spider, Style 37**

Is made of a fine duck, but not as well selected as the Double Diamond, and is likewise moulded.

Price per pound, 85 cents.

### **Czar, Style 38**

Is made of the same fine quality material as the Double Diamond, and in addition the splice is sewed, adding to its strength. They are also moulded. Czar gaskets guaranteed for 125 pounds pressure.

Price per pound, \$1.25.

### **Flat Rubber Gaskets, Style 39**

Are cut from our pure rubber sheet packings, Indestructible, Ruby, and Karbonite.

Write for price.





## Edson and Loud Pump Diaphragms

These diaphragms are constructed of a quality of rubber specially compounded from a thorough knowledge of the character of service required. The duck insertion is specially woven and very strong. Made in Edson and Loud styles, for all makes of suction pumps.

### PRICE LIST

No. 0 Edson, each	\$1.50	No. 4 Edson, each	\$4.00
No. 2 Edson, each	2.00	No. 1 Loud, each	2.00
No. 3 Edson, each	3.00	No. 2 Loud, each	3.00

## Damper Diaphragms

For either low or high pressure, made of selected high grade stocks and specially woven duck, and warranted not to burst. When ordering state pressure which diaphragms are required to stand. Special sizes and shapes to order at short notice.



### PRICE LIST Low Pressure

No.	Outside Diameter Inches	Each
111	6½	\$ .50
6937	7	.55
6191	7⅞	.70
5624	9	.85

### High Pressure

No.	Outside Diameter Inches	Each
1	6¾	\$ .55
2	9	.85
3	11⅝	1.45
4	15	2.65

## Vacuum Brake Diaphragms

For the Eames Vacuum Brake System. Manufactured of selected rubber and duck especially constructed to give proper flexibility with minimum deterioration under the vibratory conditions of service. All sizes made to order at a few days' notice.

### PRICE LIST

Style	Diameter Top Inches	Diameter Bottom Inches	Height Inches	Each
No. 2	24	10	8 $\frac{3}{4}$	\$6.50
No. 2 $\frac{1}{4}$	23	14	9 $\frac{1}{2}$	6.50
No. 2 $\frac{1}{2}$	22 $\frac{3}{8}$	10	8 $\frac{1}{2}$	6.50
No. 2 $\frac{3}{4}$	24 $\frac{1}{2}$	13	8 $\frac{5}{8}$	7.50
No. 3	22	9 $\frac{1}{2}$	8 $\frac{1}{2}$	5.50
No. 3 Special	21 $\frac{1}{2}$	8 $\frac{1}{2}$	8 $\frac{1}{4}$	5.50
No. 4	19 $\frac{1}{2}$	8 $\frac{1}{2}$	7 $\frac{1}{2}$	5.00



## Pump Valves

The manufacture of rubber pump valves that will wear is a distinct science in rubber mixing. This is especially so in valves for high lift mine pumps, oils, fire engines, waterworks, and high speed pumps. We have valves for very kind of service and with a full knowledge of all the conditions of service we guarantee satisfactory valves.

Special attention is called to our Double Diamond brand of valves. They are known stocks, the result of many years' practical experience and represent perfection in valve manufacture. The Carbon brand represents valves for similar service conditions, but in lower priced stocks.

We mention in the subjoined list the various grades and, in a brief way, the condition of service for which they are adapted, but more full information is given in our Pump Valve Booklet.

## Cold Water Valves

### Double Diamond No. 1

Best quality soft valve for cold water from 50 to 60 pounds pressure; for air pump, condenser, flap, bucket and dry dock valves.

### Double Diamond No. 5

Best quality medium hard valve for cold water up to 200 pounds pressure; warm water to 180 degrees; particularly designed for waterworks pumps.

### Double Diamond No. 8

Medium soft valve for cold water up to 75 pounds pressure, straight or curved guard, and for vacuum pump.

### Double Diamond No. 10

Soft valve for cold water up to 60 pounds pressure; air pump, condenser and flap valves.

### Double Diamond No. 12

Medium soft valve for cold or warm water up to 160 degrees, and vacuum pump, pressure not exceeding 75 pounds.

### Double Diamond No. 14

A medium hard valve for cold water up to 200 pounds pressure, or warm water up to 160 degrees. Very light weight.

### Double Diamond No. 25.

A medium hard valve. For Underwriters Fire Pump.

### Carbon No. 1

A medium hard valve for fire engine work and very cold water or brine pumps: pressure ranging from 75 to 250 pounds, depending on character of work, style of pump, size and shape of valve.

### Carbon No. 2

A soft valve for cold water, air or circulating pump; pressure not exceeding 50 pounds.

### Carbon No. 3

A medium soft valve for cold water up to 90 pounds pressure, or warm water up to 160 degrees, and for vacuum pump.

### Carbon No. 5

A medium hard valve for cold water up to 500 pounds pressure. This valve has worked very satisfactorily on mine pumps up to 800 pounds pressure, but its selection for high pressure work should be governed by the make of pump and size of valve.

## Cold Water Valves

(Continued)

### Carbon No. 6

A medium hard valve for cold water up to 85 pounds pressure, or warm water up to 180 degrees. An especially good all-around valve.

### Carbon No. 8

A soft valve for cold water pumps, straight or curved guard, up to 50 pounds pressure, and for hydrant valves.

### Carbon No. 11

A valve for same character of service as Carbon No. 8.

### Carbon No. 13

A medium soft valve for cold water up to 75 pounds pressure. This is a valve of very moderate cost and should not be used in very thin valves or on curved guard.

### Carbon No. 14

A medium hard valve for cold water, under pressure up to 500 pounds and with straight guard only.

### Carbon No. 15

A medium hard valve for same general service as Carbon No. 6.

### Carbon No. 16

A medium hard valve for cold water up to 100 pounds pressure, straight guard only or hot water up to 160 degrees.

### Carbon No. 17

A hard valve for cold water up to 300 pounds pressure or hot water up to 100 pounds pressure, 160 degrees temperature.

### Carbon No. 18

A medium hard valve for cold water from 50 to 100 pounds pressure.

### Carbon No. 19

A soft valve for cold water, low pressure, not over 50 pounds.

### No. 300

A medium soft valve for cold water mine pump service, lifts up to 300 feet.

### No. 500

A medium hard valve for cold water mine pump service, lifts 300 to 500 feet.

### No. 800

A very stiff valve for cold water mine pump service, lifts from 500 to 800 feet.

## Hot Water Valves

### Double Diamond No. 2

A hard valve for hot water 212 degrees, up to 150 pounds pressure; hot air or cold water up to 500 pounds pressure.

### Double Diamond No. 3

A very hard, brown valve for 300 degrees temperature, up to 200 pounds pressure.

### Double Diamond No. 6

A hard valve for hot water up to 212 degrees, petroleum, acids, etc.

### Double Diamond No. 7

A hard valve for hot water up to 212 degrees, hot ammonia or cold water up to 300 pounds pressure.

### Double Diamond No. 11

Comb stock for hot water up to 300 degrees; hot ammonia, oils and acids, 300 pounds pressure.

### Double Diamond No. 13

A hard valve for hot water up to 300 degrees temperature, 200 pounds pressure. Very light weight.

### Carbon No. 7

A hard valve for hot water up to 212 degrees, hot ammonia, or oils. One of our oldest valve compounds.

### Carbon No. 9

A hard valve for hot water up to 300 degrees temperature at 150 pounds pressure.

### Carbon No. 12

An excellent hard valve at very moderate cost for hot water up to 200 degrees temperature.

### Carbon No. 17

A hard valve for hot water up to 160 degrees at 175 pounds pressure, or cold water up to 400 pounds pressure.

## Condenser Valves

### **Czar**

Our best quality marine condenser valve of high grade tough, red rubber, very durable and light weight.

### **Double Diamond No. 9**

A high grade black condenser valve, also especially suitable for acids.

### **Carbon No. 10**

A soft black condenser valve of exceptionally good quality, at moderate cost.

## Oil Pump Valves

### **Double Diamond No. 3**

A very hard valve for hot oil and grease of all kinds, at temperatures up to 212 degrees.

### **Double Diamond No. 6**

A hard valve for petroleum pumps up to 200 pounds pressure. See also Hot Water Valves.

### **Double Diamond No. 15**

A medium soft valve for pressure up to 80 pounds, especially adapted for all kinds of oils and grease.

### **Carbon No. 7**

A hard petroleum valve for same general conditions of service as Double Diamond No. 6. See also Hot Water Valves.

## Pulsometer Valves

### **Double Diamond No. 9**

A high grade gray stock, very soft and flexible and of exceptionally light weight.

### **Double Diamond No. 10**

A soft gray rubber, exceedingly tough and durable, though not so expensive as the Double Diamond No. 9 stock.



Style 20  
Old Style, with round hole

Style 21  
New Style, with oblong hole

## Hard Rubber Valve Discs

For all Makes of Valves

Made of a hard rubber composition, but sufficiently elastic to seat perfectly without the use of a wrench. Suitable for highest steam pressures, also ammonia, oils and acids. Will not soften or wear uneven. In ordering, state whether New Style (oblong hole) or Old Style (round hole) is wanted. Carried in stock in all sizes up to 3 inches in hard composition. Soft composition for cold water, air and gas made to order at short notice.

Carried in stock in all sizes as listed:

Size, Inches	Each	Size, Inches	Each
$\frac{1}{4}$	.03	3	\$ .33
$\frac{3}{8}$	.04	$3\frac{1}{2}$	.45
$\frac{1}{2}$	.04	4	.52
$\frac{3}{4}$	.05	$4\frac{1}{2}$	.60
1	.06	5	.68
$1\frac{1}{4}$	.09	6	.90
$1\frac{1}{2}$	.12	7	.98
2	.18	8	1.20
$2\frac{1}{2}$	.24		



## Rubber Ball Valves

For steam pumps, tanners' pumps, paper mills, etc., and all mechanical devices requiring a Rubber Ball. Manufactured in all sizes, perfectly round and true and any weight desired with metal centers. Also furnished in floating stocks and with cork or wood centers.

### PRICE LIST

Diameter, Inches	Per Dozen	Diameter, Inches	Per Dozen
1 or less	\$1.00	2½	\$10.50
1⅛	1.40	2¾	13.00
1¼	1.90	3	15.50
1⅜	2.50	3¼	19.50
1½	3.25	3½	23.50
1⅝	4.00	3¾	29.25
1¾	4.75	4	35.00
1⅞	5.50	4½	54.50
2	6.50	5	70.00
2¼	8.00	6	115.00





## Gauge Glass Washers

Either cut (square flange) or moulded (round flange). Made of a soft, pure, pliable rubber that will not harden in service. Carried in stock in all sizes as listed. Square Flange, price per pound \$1.50.

Size Inch	Inside Diameter Inch	Outside Diameter, Inches			
$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{4}$			
$\frac{1}{2}$	$\frac{1}{2}$	$\frac{7}{8}$			
$\frac{5}{8}$	$\frac{5}{8}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$
$\frac{3}{4}$	$\frac{3}{4}$			$1\frac{1}{8}$	

Moulded Round Flange, price per pound \$2.00.

Size, Inch	Inside Diameter, Inch	Outside Diameter, Inches
$\frac{1}{2}$	$\frac{13}{32}$	$\frac{23}{32}$
$\frac{5}{8}$	$\frac{9}{16}$	1
$\frac{3}{4}$	$\frac{11}{16}$	$1\frac{1}{16}$

## Lubricated C. I. Gauge Glass Washers

Made to order only and in any size wanted.



## Coupling Packing Rings

In regular sizes for Westinghouse and New York Air Brake systems; manufactured of a fine grade rubber and absolutely accurate in size, and warranted to fit perfectly. Prices quoted on application.

## Steam Heat Gaskets

For all standard railway couplings. Made of specially compounded stock warranted to make a better and tighter joint than any steam heat gasket on the market.



## Hose Washers

Manufactured of pure rubber and carried in stock for all standard sizes of couplings. When ordering state style and size of coupling as well as thread. Special sizes made to order at short notice.

### PRICE LIST

$\frac{3}{4}$ -inch Garden Hose, per pound.....	\$ .75
$\frac{1}{2}$ to 3-inch Shank Coupling, per pound.....	1.00
1 to $2\frac{5}{8}$ -inch Expansion Ring Coupling, per pound.....	1.50

## Cut Washers

Furnished in any size and for any purpose, in innumerable qualities of rubber. Furnish us with details as to what is wanted, and prices will be cheerfully quoted.

## Union Washers

For either lip or flange unions. Made of a good grade cloth insertion rubber, reinforced with cloth on both sides if desired, or of pure rubber. The many different styles of unions and flanges necessitate full dimensions of washer being given when ordering.

## Bibb Washers

Made of specially compounded stock, suitable for either hot or cold water. Put up 100 in a box. Sizes given are the sizes of bibb which washer is intended to fit.



Fuller Faucet Balls

### PRICE LIST

For $\frac{3}{8}$ -inch Bibb, per 100.....	\$ .50
For $\frac{1}{2}$ -inch Bibb, per 100.....	.60
For $\frac{5}{8}$ -inch Bibb, per 100.....	.70
For $\frac{3}{4}$ -inch Bibb, per 100.....	.80
For 1- inch Bibb, per 100.....	2.00

## Fuller Faucet Balls

Suitable for either hot or cold water and carried in stock in sizes  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$  and 1 inch.

Price per pound, \$1.00.

Approximate weight per 100:

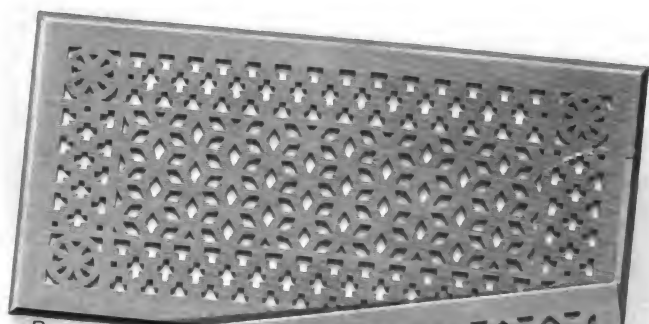
$\frac{3}{8}$ inch, $\frac{9}{16}$ pound
$\frac{1}{2}$ inch, 1 pound
$\frac{5}{8}$ inch, $1\frac{3}{8}$ pounds
$\frac{3}{4}$ inch, $2\frac{1}{4}$ pounds
1 inch, $3\frac{3}{8}$ pounds

## Rubber Mats and Matting

**O**UR Rubber Mats and Matting are unsurpassed in quality and durability, and will not become hard and brittle in use. Our manufacturing facilities for this line of goods are unequaled and customers can rely upon satisfactory service being rendered.

In addition to the lines listed we are prepared to furnish special mats or matting to meet special requirements, and upon receipt of details will cheerfully furnish estimate.

Write for Catalogue M, Rubber Mats and Matting.



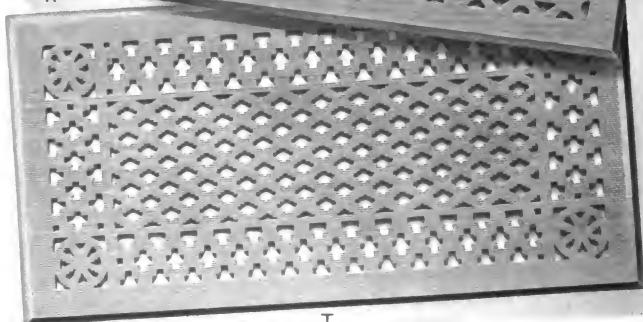
P



Q



R



T

## Perforated Mats

Our Perforated Mats are "leaders" in quality and durability; are sufficiently yielding and flexible to make them noiseless and conform to uneven surfaces, but hard enough to resist wear, and guaranteed to outwear any make of rubber mat on the market at similar cost.

As an advertising feature, letters, names, monograms or numbers can be inserted in Perforated Rubber Mats in colored rubber. Mats can also be furnished in white or red rubber at some extra cost.

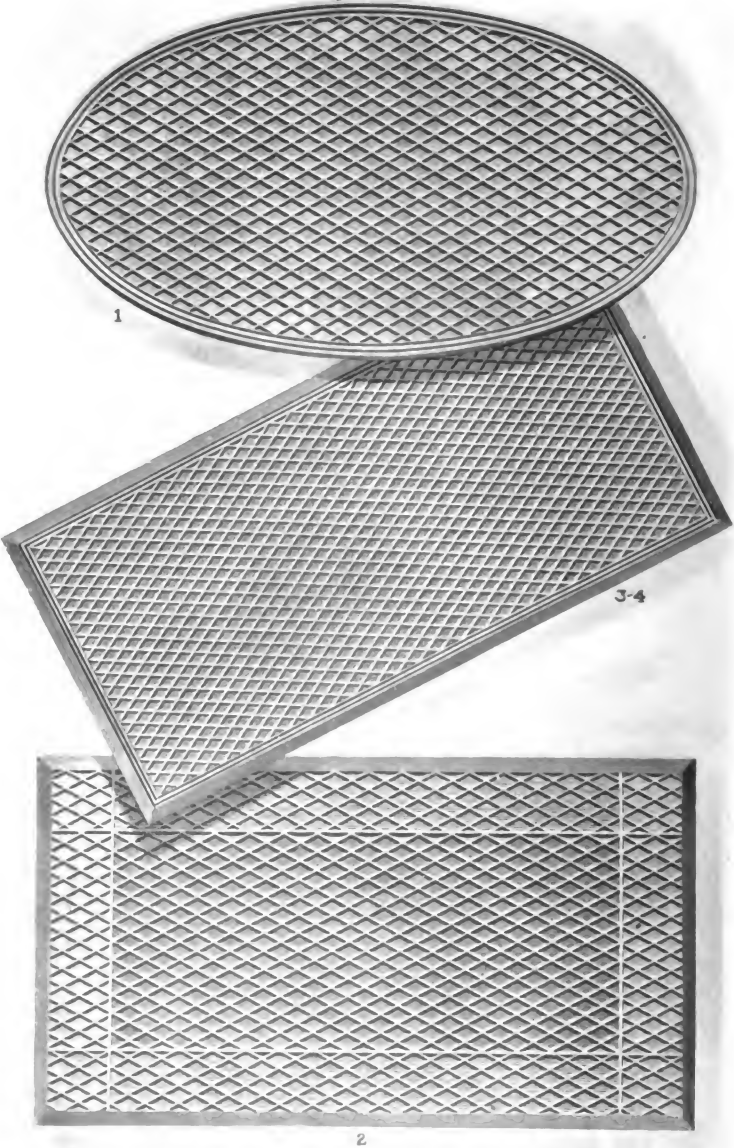
For use on finely finished floors and in front of soda water fountains we recommend Perforated Mats with rubber-proofed solid canvas back, which makes the cells watertight. The dirt and moisture is thus held in the cells and readily removed when the mats are cleaned.

When ordering Perforated Mats specify length, width, thickness and pattern wanted, and if corrugated surface, the direction of the corrugations, and which edges should be beveled. If a special shape is wanted send an accurate detailed drawing or full size paper pattern marking plainly on same the top and front edge of mat. Mats can be made 20 feet long by 6 feet wide, but we recommend making large mats in sections containing not over 25 to 30 square feet. This not only facilitates the ease of handling, but reduces to the minimum the possibility of tearing out the meshes. The sections of large Mats are made with perforated sectional borders, so as to give the appearance of one single Mat when laid in place. On opposite page will be found cuts of our regular patterns. Unless otherwise specified, Pattern Q, but without the box around the name, the body entirely of hexagon perforations with corrugated surface will be furnished; and if lettered, black block letters will be inserted.

Perforated Mats should not be handled by the meshes or by rolling, but should be lifted by the edges.

We carry Perforated Mats in stock in two sizes, 18 inches x 36 inches and 24 inches x 36 inches, both sizes in  $\frac{1}{4}$  inch,  $\frac{3}{8}$  inch and  $\frac{1}{2}$  inch, all Pattern Q.

$\frac{1}{4}$ inch thick, per square foot.....	\$ .75
$\frac{3}{8}$ inch thick, per square foot.....	1.00
$\frac{1}{2}$ inch thick, per square foot.....	1.25
Black block letters, extra per letter.....	.25
Red or white block letters, extra per letter....	.50
Red or white script letters, extra per letter....	1.25
Canvas back, extra, per square foot.....	.50

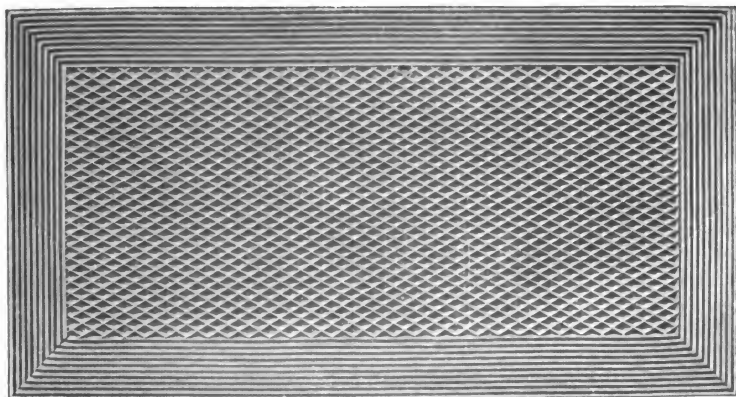


## Diamond Cell Mats

These Mats shown on opposite page are solid back, and somewhat similar in design to the Puritan. The heavy beveled edges add greatly to the life of the mat and corrugated back prevents slipping. Made of durable rubber and when used in suitable places will give splendid service.

### PRICE LIST

No. 1—17 x 31 oval, per dozen.....	\$27.00
No. 2—18 x 32 oblong, with border per dozen..	30.00
No. 3—18 x 36 oblong, no border, per dozen...	36.00

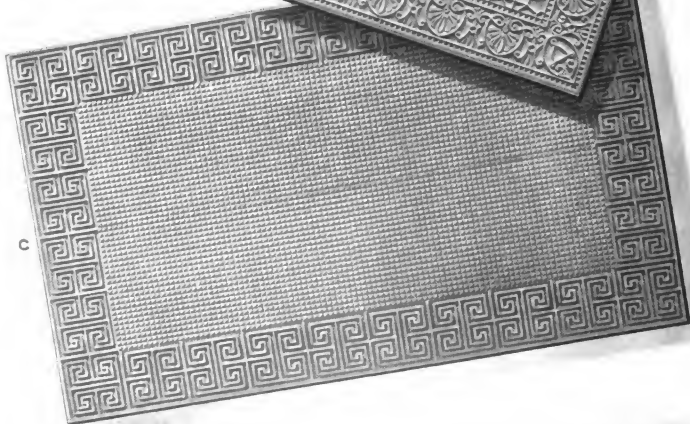
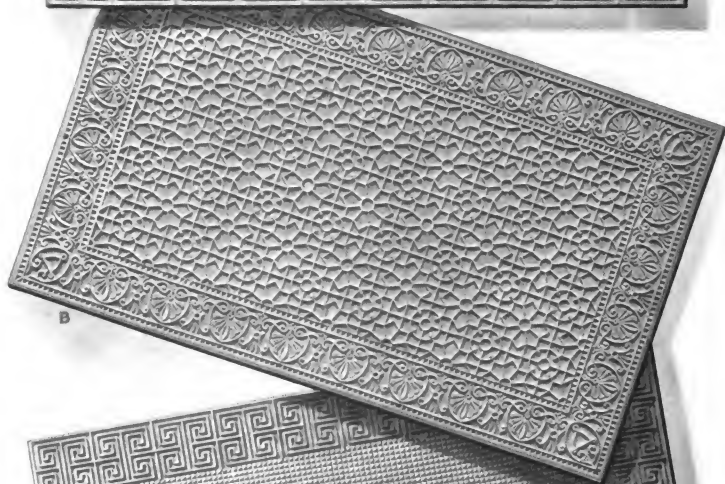
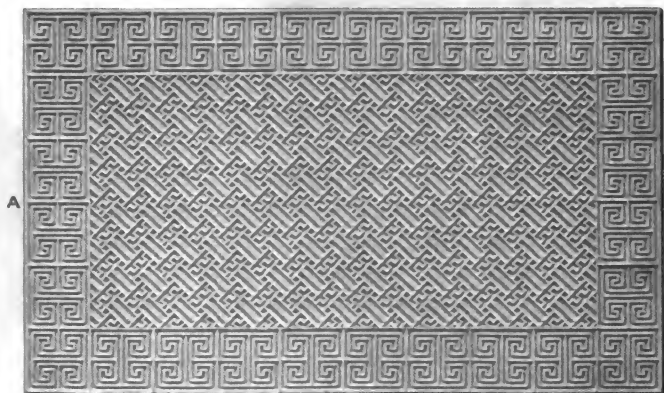


## Puritan Door Mat

Is made with a deep diamond cell body and wide corrugated border tapering in thickness from the center to the edge. The sharp ribs between the cells clean the shoes thoroughly and the cells retain the dirt and prevent the soiling of the carpet.

### PRICE LIST

No. 1—17 x 31 inches, per dozen	\$24.00
No. 2—21 x 36 inches, per dozen	32.00



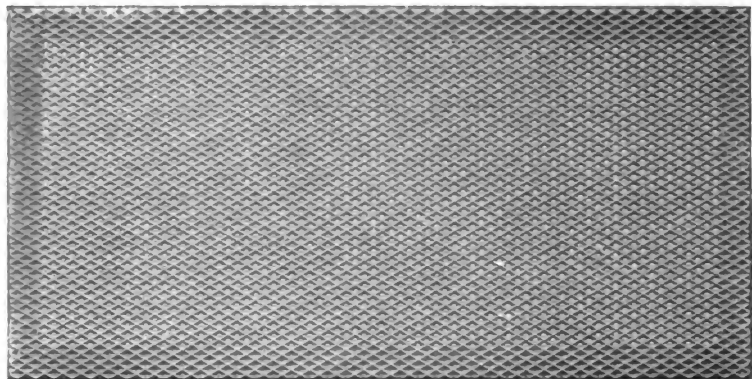


**Embossed (N.P.M.) Mats**

Made in three different patterns as shown by cuts on opposite page, all  $\frac{1}{32}$  inch thick. These mats are among the most durable we manufacture. The style is one of our "Pioneers," and the high quality that is still maintained continues to win them numerous friends. They are especially adapted for inside entrances to rooms in hotels, etc.

**PRICE LIST**

No.	Size, Inches	Style	Per Dozen
1	15 x 30	A, B and C	\$17.00
2	18 x 30	A, B and C	20.00
3	21 x 30	A and B	23.50
4	18 x 36	A and B	24.00
5	21 x 36	A and B	28.00
6	24 x 36	A and B	32.00



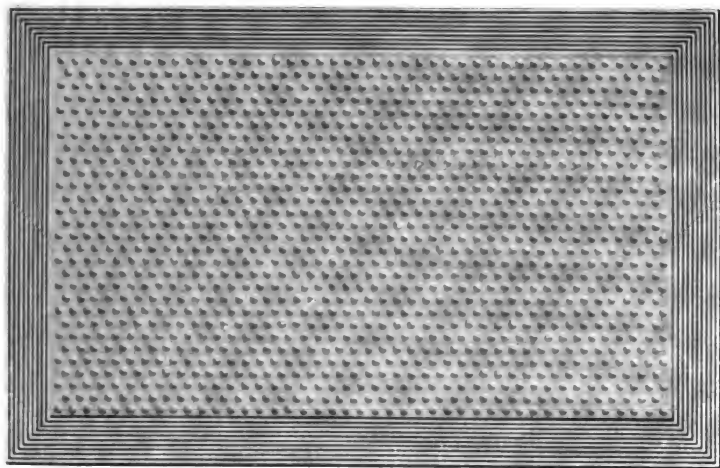
### **Nahma Diamond Cell Mats**

This style mat is manufactured exclusively by this company and can be furnished to order in any size or shape desired, the same as a regular Perforated Mat. Owing to its style it can be made either solid—as a solid back Diamond Cell Mat—or with oval perforations through the cells. The quality is an extra fine grade of white rubber, which will give exceptionally long wear, but it can be furnished in black rubber if desired.

#### **PRICE LIST**

White,  $\frac{5}{16}$  inch, per square foot \$1.65

Black,  $\frac{5}{16}$  inch, per square foot 1.25



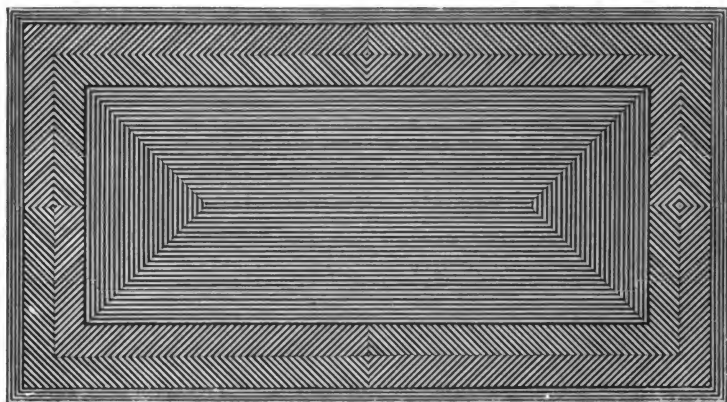
## Nybnob Mats

A new design manufactured exclusively by this company and especially suited for bath rooms. Made in two sizes as listed, and in black or white rubber.

### PRICE LIST

No. 1—18 x 30 inches, per dozen \$20.00

No. 2—24 x 36 inches, per dozen 32.00

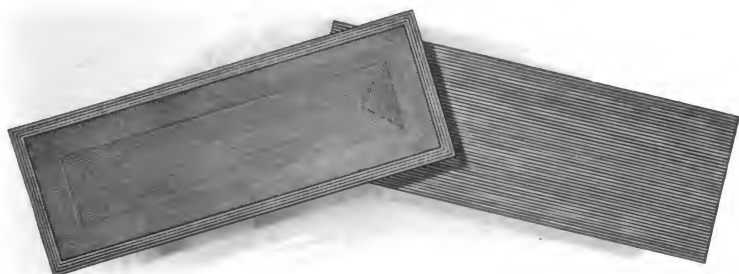


### Molded Corrugated Mats

Well adapted for vestibule entrances and for inside service in public rooms. Are especially neat in appearance and durable in service. Regularly made  $\frac{1}{8}$  inch thick but heavier or lighter if desired.

#### PRICE LIST

No.	Size, Inches	Per Dozen	No.	Size, Inches	Per Dozen
1	17 x 31	\$18.50	22	36 x 156	\$205.75
1½	24 x 24	20.00	23	54 x 59½	117.25
2	23 x 36	28.50	24	36 x 139	184.00
3	24 x 70	56.50	25	24 x 27	23.75
4	24 x 108	86.00	26	48 x 101	177.75
5	24 x 120	96.00	27	24 x 29	25.50
6	16 x 32	18.00	28	20 x 36	26.50
7	18 x 36	21.50	29	18 x 24	16.00
8	38 x 48	61.00	30	36 x 144	190.00
9	42 x 96	135.00	31	36 x 123	162.50
10	42 x 48	68.00	32	24 x 42	37.00
11	24 x 186	150.00	33	48 x 71½	126.00
12	36 x 72	87.00	34	36 x 36	47.50
13	18 x 54	33.00	35	32 x 32	37.50
14	36 x 96	116.00	36	36 x 192	253.40
15	32 x 113	122.00	37	36 x 42	55.25
16	24 x 34	27.25	38	24 x 168	148.00
17	17 x 29	16.75	39	24 x 144	126.75
18	22½ x 36	27.90	40	22 x 60	48.40
19	24 x 48	40.00	41	14 x 24	12.50
20	25⅝ x 54¾	46.75	42	36 x 78	103.00
21	20 x 30	20.00			



## Rubber Treads

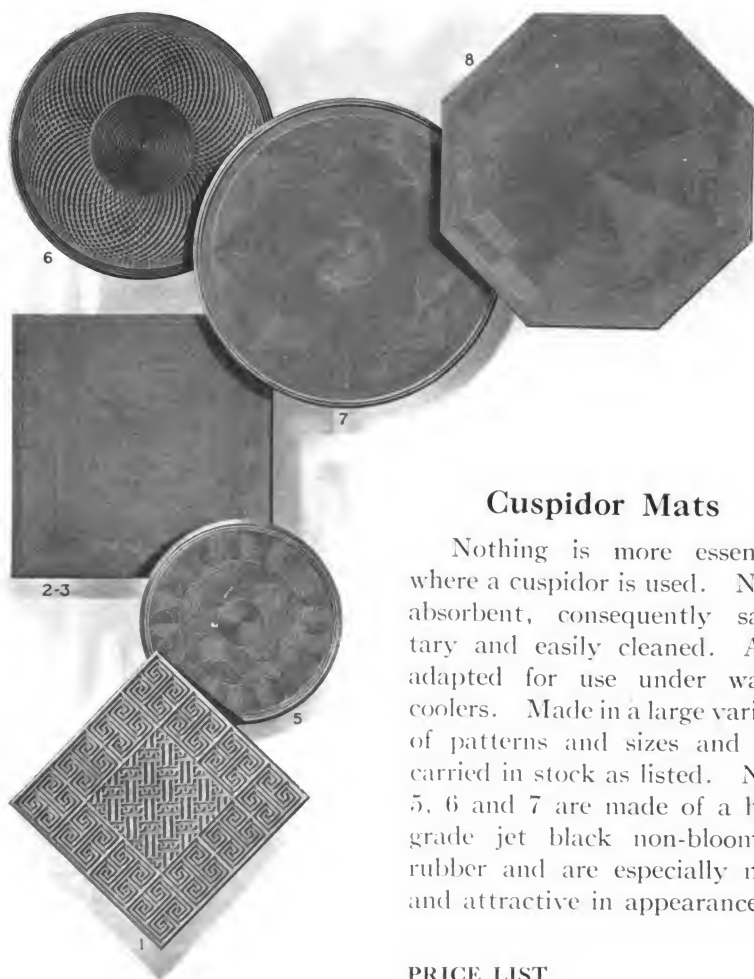
Are indispensable, especially for outside service in stormy weather, and to protect stairs from wear. Furnished in either Molded Corrugated pattern as listed, or cut in any sizes from any style Matting illustrated on pages 146-148.

### PRICE LIST—MOLDED STAIR TREADS

No.	Size, Inches	$\frac{1}{8}$ Inch Thick Per Dozen	$\frac{3}{16}$ Inch Thick Per Dozen	No.	Size, Inches	$\frac{1}{8}$ Inch Thick Per Dozen	$\frac{3}{16}$ Inch Thick Per Dozen
1	6 x18	\$4.00	\$3.30	18	4 x24	\$3.50	\$3.00
2	7 x24	6.00	5.00	19	8 x22	6.60	5.50
3	4 x39	5.50	4.70	20	$3\frac{1}{2} \times 14\frac{3}{4}$	1.90	1.60
4	7 x40	10.00	8.30	21	12 x60	26.50	21.75
5	$7\frac{1}{2} \times 42$	11.00	9.10	22	11 x57	23.00	19.00
6	$7\frac{1}{2} \times 48$	12.50	10.40	23	9 x18	6.60	5.00
7	9 x40	12.50	10.40	24	12 x52	23.00	19.00
8	9 x48	15.00	12.50	25	6 x36	7.90	6.50
9	9 x36	11.25	9.40	26	9 x26	8.50	7.00
10	6 x48	10.20	8.50	27	8 x30	8.80	7.25
11	7 x28	7.00	5.85	28	9 x30	10.00	8.25
12	9 x54	16.80	14.00	29	10 x52	19.00	15.75
13	8 x52	14.60	12.15	30	10 x54	19.75	16.50
14	10 x24	8.40	7.00	31	9 x22	7.25	6.00
15	6 x24	5.25	4.35	32	9 x32 $\frac{3}{4}$	10.75	9.00
16	8 x18	5.25	4.35	33	$10\frac{1}{2} \times 60$	23.00	19.00
17	11 x56 $\frac{1}{4}$	22.50	18.50				

### PRICE LIST—CUT STAIR TREADS

$\frac{3}{32}$ inch thick, per square foot	\$ .33
$\frac{1}{8}$ inch thick, per square foot	.40
$\frac{3}{16}$ inch thick, per square foot	.56
$\frac{1}{4}$ inch thick, per square foot	.73



## Cuspidor Mats

Nothing is more essential where a cuspidor is used. Non-absorbent, consequently sanitary and easily cleaned. Also adapted for use under water coolers. Made in a large variety of patterns and sizes and are carried in stock as listed. Nos. 5, 6 and 7 are made of a high grade jet black non-blooming rubber and are especially neat and attractive in appearance.

### PRICE LIST

No. 1—12 x 12 inches square, per dozen.....	\$ 5.50
No. 2—15 x 15 inches square, per dozen.....	9.00
No. 3—18 x 18 inches square, per dozen.....	11.00
No. 4— 9 inches round, per dozen.....	3.50
No. 5—12 inches round, per dozen.....	6.75
No. 6—16 inches round, per dozen.....	12.00
No. 7—18 inches round, per dozen.....	15.00
No. 7A—18 inches round, per dozen.....	15.00
No. 8—18½ inches octagon, per dozen.....	12.00
No. 9—21 inches octagon, per dozen.....	16.00



## Pitcher and Flower Pot Mats

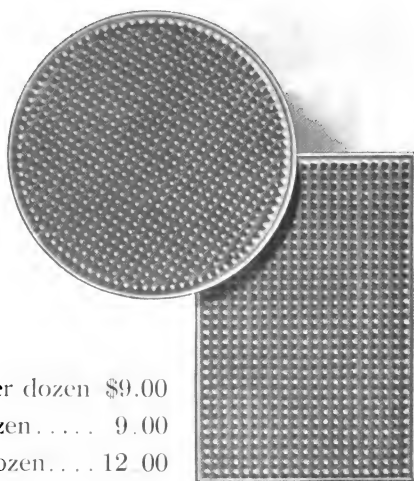
Manufactured in corrugated patterns, black rubber for flower pots and Diamond Cell patterns; black and red rubber for pitchers. The deep diamond cells in these mats retain all slopping from the pitcher.

### PRICE LIST

No. 1—9 inches, round, for flower pots, per dozen.....	\$3.50
No. 2—9 inches, octagon, for flower pots, per dozen.....	3.75
No. 3—8½ inches, round, black, for pitchers, per dozen....	7.00
No. 4—8½ inches, round, red, for pitchers, per dozen.....	8.50
No. 5—9½ inches, octagon, black, for pitchers, per dozen...	8.50
No. 6—9½ inches, octagon, red, for pitchers, per dozen.....	9.50

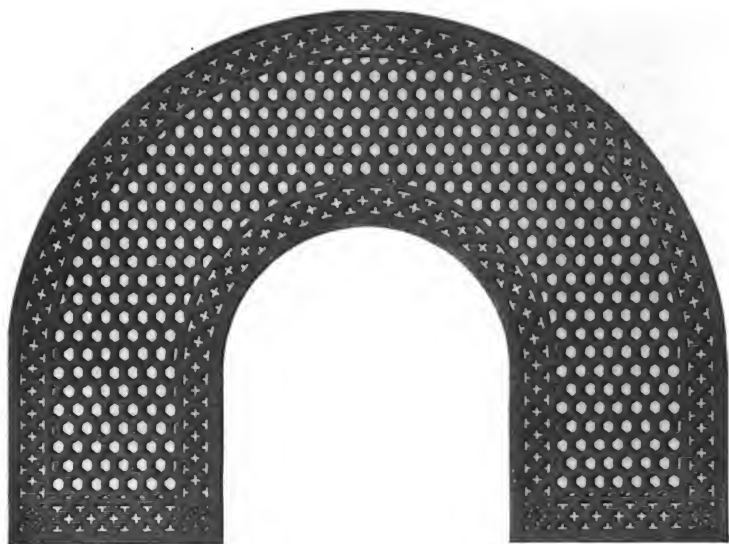
## Coin Mats

Prevent the scratching of show cases and the flexibility of the rubber teats facilitates the picking up of coins. Made in red and black rubber and of selected durable stocks.



### PRICE LIST

No. 1—6 x 9 inches, oblong, per dozen	\$9.00
No. 2—8 inches, round, per dozen.....	9.00
No. 3—10 inches, round, per dozen.....	12.00



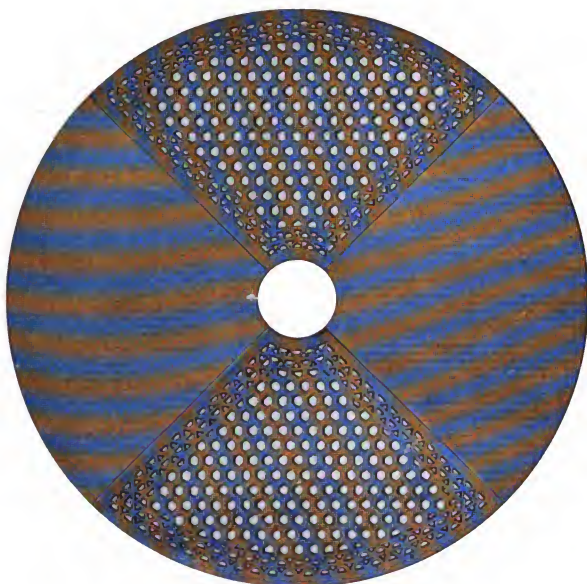
## Barber and Dentist Chair Mats

Of correct size and shape for standard chairs. Made in regular perforated qualities or from corrugated or pyramid matting. Size of open space for chair base, 21 x 44 inches; width of mat, 15 inches.

### PRICE LIST

Perforated, $\frac{3}{16}$ inch thick, each	\$9.50
Perforated, $\frac{1}{4}$ inch thick, each	11.25
Corrugated, $\frac{3}{32}$ inch thick, each	5.00
Corrugated, $\frac{1}{8}$ inch thick, each	6.00
Corrugated, $\frac{3}{16}$ inch thick, each	8.50
Pyramid, $\frac{1}{8}$ inch thick, each..	8.25
Pyramid, $\frac{3}{16}$ inch thick, each..	11.25
Pyramid, $\frac{1}{4}$ inch thick, each..	14.25
Letters, each.....	.50





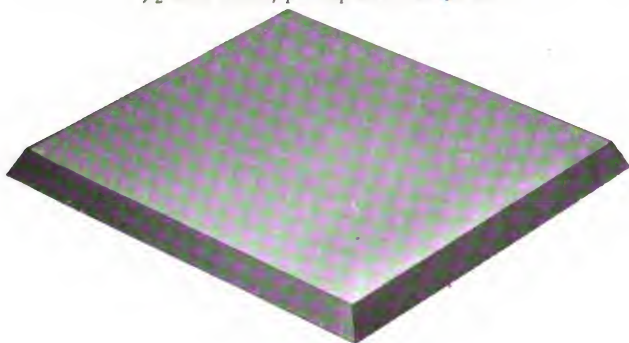
## Revolving Door Mats

An indispensable article for use with revolving doors. Made in four sections—front and back sections perforated and two side sections solid. The solid sections give additional weight to the mat and a perfect and safe foothold when passing through the door.

When ordering give diameter of the circle, size of the center post and distance from center post to front and back.

### PRICE LIST

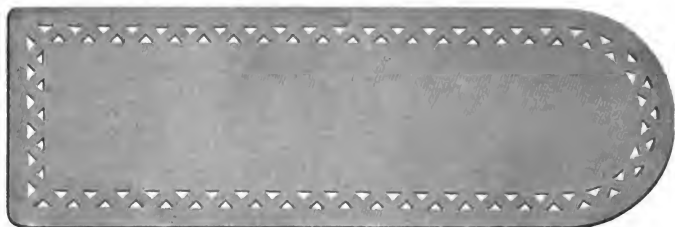
$\frac{1}{4}$ inch thick, per square foot 74 cents	$\frac{3}{8}$ inch thick, per square foot \$1.02
$\frac{1}{2}$ inch thick, per square foot \$1.28	



## Trunk Mats

Designed for use where baggage is handled. Usually made one inch thick with smooth surface without perforations, and any size desired. The quality is superior and will withstand blows from sharp corners of trunks dropped on them.

Price per pound, \$1.00.



## Bath Tub Mats

Smooth porcelain and enameled tubs have often proved a cause of serious accident, particularly to the aged and infirm. A Rubber Bath Tub Mat when properly made makes the smoothest tub safe. Our mats are made of white rubber with slightly roughened finish on both sides, making them non-slipping and velvety to the touch, and are impervious to hot water. Carried in stock 12 inches x 36 inches or furnished in special sizes at one day's notice.

### PRICE LIST

12 x 36 inches, per dozen.....	\$24.00
Other sizes, per square foot.....	.75

## Car Step Treads

Are manufactured in the Knob pattern of specially selected rubber to withstand severe service; very adhesive and elastic and indispensable for street car and railway car service. Made regularly in sizes as indicated by list; and name or initial of railway can be inserted at slight extra cost.

### PRICE LIST

No. 1—5 $\frac{5}{8}$ inches wide, 26 $\frac{3}{4}$ inches long, per dozen.....	\$ 7.60
No. 2—5 $\frac{5}{8}$ inches wide, 22 $\frac{1}{2}$ inches long, per dozen.....	7.60
No. 3—5 $\frac{5}{8}$ inches wide, 17 $\frac{3}{8}$ inches long, per dozen.....	6.50
No. 4—5 $\frac{5}{8}$ inches wide, 16 $\frac{1}{2}$ inches long, per dozen.....	5.40
No. 5—7 $\frac{3}{4}$ inches wide, 28 $\frac{7}{8}$ inches long, per dozen.....	12.00
No. 6—7 $\frac{3}{4}$ inches wide, 28 $\frac{7}{8}$ x 33 $\frac{1}{8}$ inches long, per dozen.	12.00

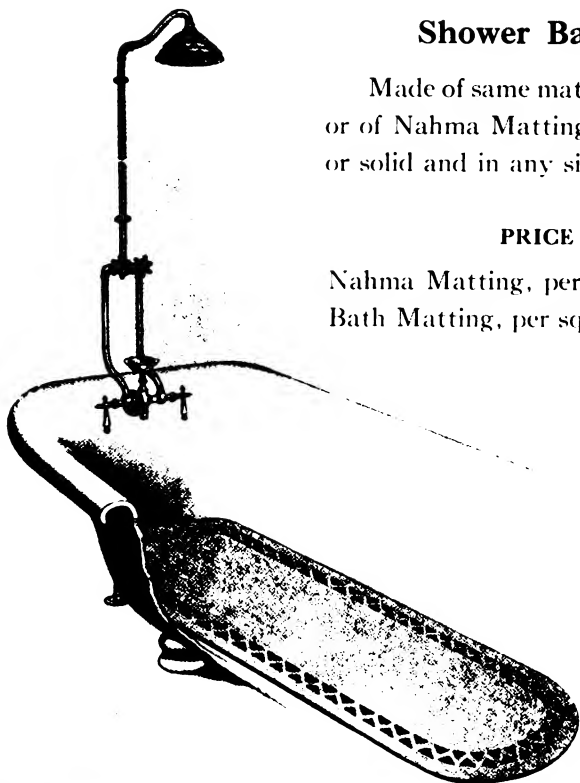
## Shower Bath Mats

Made of same material as Bath Mats, or of Nahma Matting, either perforated or solid and in any sizes desired. \*

### PRICE LIST

Nahma Matting, per square foot. \$1.65

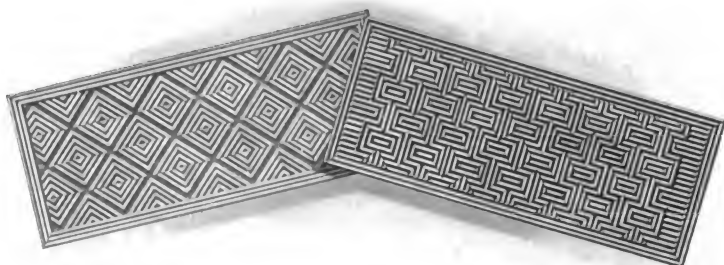
Bath Matting, per square foot. . . . .75



## Carriage and Automobile Mats

Manufactured in the large variety of styles used, either molded or perforated, or cut from the different styles of matting. When ordering submit full size pattern of space to be covered and specify style of material and thickness wanted.





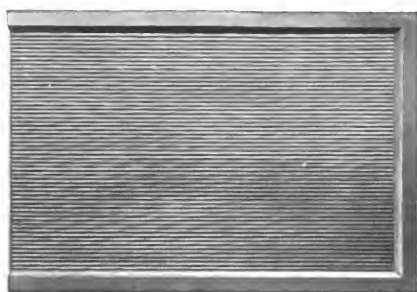
### Pedal Mats

For pedals of piano players, organs, etc. Made regularly in Molded Corrugated patterns as indicated, or in special sizes at short notice.

#### PRICE LIST

No. 1— $9\frac{5}{8}$ x $3\frac{7}{8}$ inches, per dozen.....	\$1.25
No. 2—10 x $4\frac{1}{4}$ inches, per dozen.....	1.50
No. 3— $10\frac{3}{4}$ x $3\frac{1}{2}$ inches, per dozen.....	1.30

### Sink Mats and Drain Board Mats



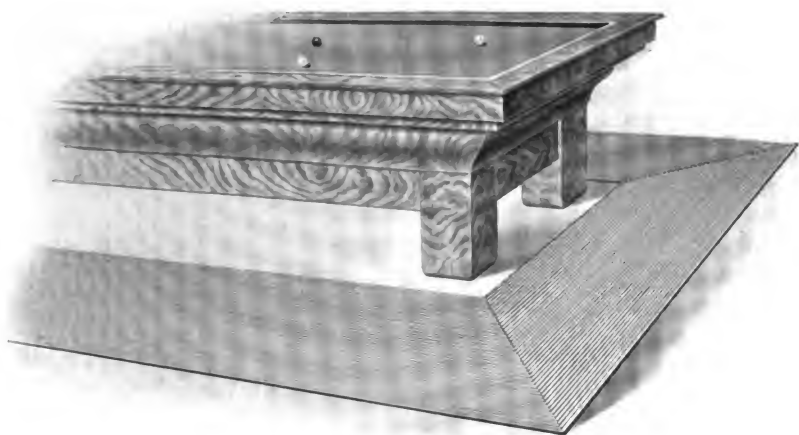
Made in perforated pattern in any size desired or in solid corrugated pattern, with raised edge on three sides, as illustrated in cut. A perfect drain for dishes, and saves their cost very quickly in preventing breakage.

#### PRICE LIST

Perforated, $\frac{3}{16}$ inch thick, per square foot.....	\$ .70
Perforated, $\frac{1}{4}$ inch thick, per square foot.....	.75
Solid corrugated, per square foot.....	1.25

### Counter Mats

Manufactured in smooth dark rubber and with colored inlaid border in either white or red rubber. These mats add materially to the attractiveness of a salesroom and at the same time deaden noise and protect the counter.

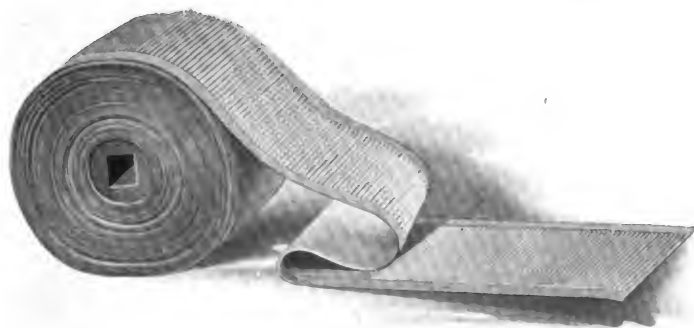


### Billiard Table Mats

Nothing makes so neat and durable a floor covering around billiard tables as corrugated Mats or Matting. Not only perfectly noiseless, but give an absolutely non-slipping foothold. Made in two styles, molded pattern with square ends or cut from corrugated matting with skived ends.

#### PRICE LIST

No. 1—	4½x 9 foot table,	⅛ inch thick,	per set	\$28.67
No. 2—	4½x 9 foot table,	⅜ inch thick,	per set	23.76
No. 3—	5 x10 foot table,	⅛ inch thick,	per set	30.34
No. 4—	5 x10 foot table,	⅜ inch thick,	per set	25.08



### Running-board Mats

For automobile running-boards we manufacture a special style Matting—with pyramid body and corrugated border in the various widths, suitable for all makes of machines. Furnished in either black, white or red, and in qualities warranted to give maximum service. Carried in stock 9¾ inches wide in both black and white rubber.

#### PRICE LIST

No. 1—	8 inches wide,	per running yard	\$1.10
No. 2—	9¾ inches wide,	per running yard	1.35
No. 3—	11¾ inches wide,	per running yard	1.65



## Corrugated Rubber Matting

This popular floor covering, illustrated on opposite page, was introduced by this company many years ago. The same special care that originally obtained in selecting stocks adapted for maximum durability is still maintained.

It is especially adapted for outdoor service, in railroad cars, vestibules, halls and corridors, theatre aisles and lobbies and in all public and private buildings where constant traffic is maintained. It protects the floor from wear, prevents slipping on marble and tile floors and makes them noiseless. Indispensable for use as runners on wet days, and the most sanitary floor covering devised.

Kept in stock in rolls containing 25 yards,  $\frac{3}{32}$ ,  $\frac{1}{8}$ ,  $\frac{3}{16}$  and  $\frac{1}{4}$  inch thick, 36 inches wide; or made to order up to 72 inches wide and in any length or thickness desired. When used as a runner we recommend 25-foot lengths as most convenient and easily handled.

### PRICE LIST

$\frac{3}{32}$ inch thick, per square foot	\$ .33
$\frac{1}{8}$ inch thick, per square foot	.40
$\frac{3}{16}$ inch thick, per square foot	.56
$\frac{1}{4}$ inch thick, per square foot	.73
$\frac{3}{8}$ inch thick, per square foot	1.03
$\frac{1}{2}$ inch thick, per square foot	1.30

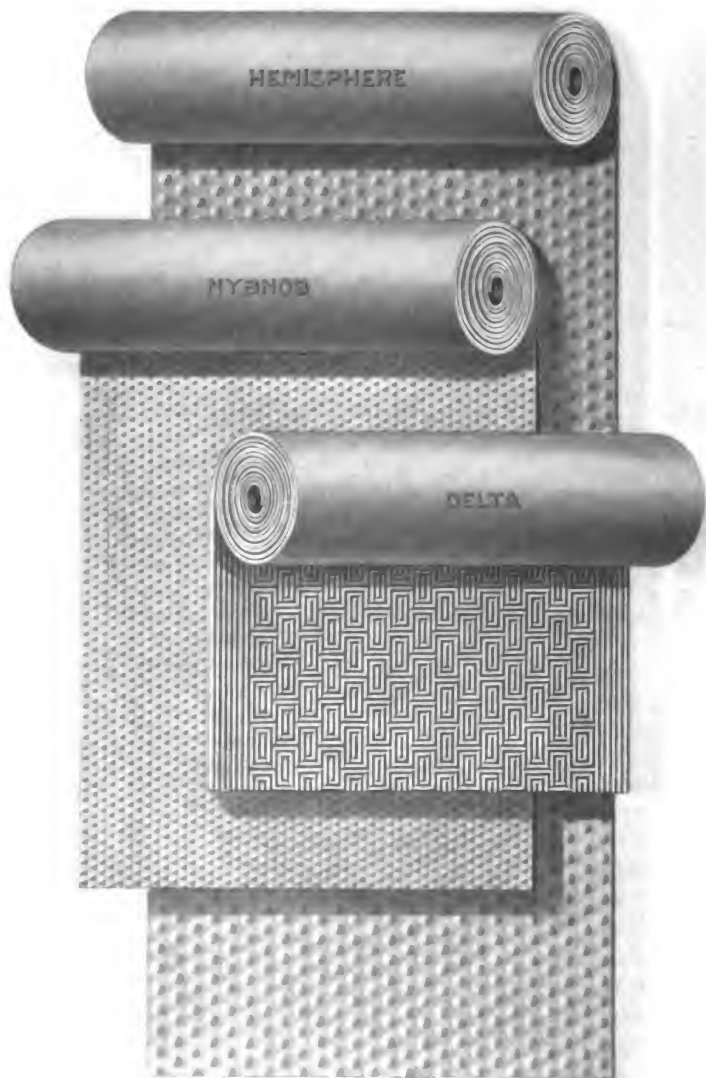
## Pyramid Matting

Manufactured of the same high grade materials as our corrugated matting; its style appeals to some in preference to the corrugated on account of being more ornate. Stair treads can be cut either crosswise or lengthwise of the roll, thus avoiding waste.

Carried in stock in 25-yard rolls,  $\frac{1}{8}$  inch thick, 36 inches wide, or made to order in any length or thickness desired up to 40 inches wide.

### PRICE LIST

$\frac{1}{8}$ inch thick, per square foot	\$ .55
$\frac{3}{16}$ inch thick, per square foot	.75
$\frac{1}{4}$ inch thick, per square foot	.95
$\frac{3}{8}$ inch thick, per square foot	1.35
$\frac{1}{2}$ inch thick, per square foot	1.75





## Knob or Hemisphere Matting

A heavy matting especially for street and railway car steps and platforms, and runway approaches to ferryboats. Somewhat more expensive than the ordinary grades of matting, but exceedingly durable. Its design enables it to be cut into step treads and platform mats without waste. Made in all widths up to 72 inches and any length desired.

Price per pound, 50 cents.

Approximate weight,  $\frac{3}{16}$  inch, per square yard 14 pounds.

Approximate weight,  $\frac{1}{4}$  inch, per square yard 18 pounds.

## Nybnob Rubber Matting

An exclusive and original design of rubber matting especially suited for automobiles, hall runners, etc. The small size and low height of the knobs give it all the merits of Hemisphere or Knob matting without the same difficulty in cleaning, and makes an especially attractive matting as well as one that is more durable in service. Cutting special size mats to any shape does not injure the design.

Made in black, red or white rubber, of durable quality, thirty-six inches wide and in any thickness.

### PRICE LIST

$\frac{3}{32}$ inch thick, per square foot	\$ .45
$\frac{1}{8}$ inch thick, per square foot	.55
$\frac{3}{16}$ inch thick, per square foot	.75
$\frac{1}{4}$ inch thick, per square foot	.95

## The Delta Runner

A corrugated matting in block design with a straight corrugated border on each side. Especially designed as a Runner for use in apartment houses, hotels, etc., where an attractive and sanitary Runner is needed for stormy weather. Is light in weight and easily handled, yet very durable

Carried in stock in rolls of fifty yards, 27 inches wide.

Price per running yard, \$1.50.



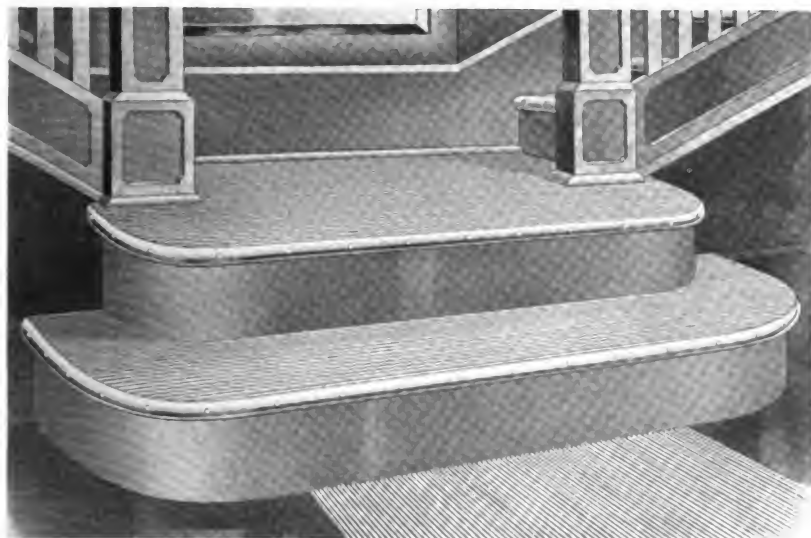
## Mats for Yachts, Boats and Automobiles

Regular perforated Mats (as per illustrations on page 128) especially in white rubber, and the Nahma style (illustrated page 134) make especially attractive deck and floor coverings. Nothing handsomer and so well adapted for the service can be furnished.

## Advertising Mats

A rubber door or coin mat with your name or facsimile cut inserted in white is an economical form of advertisement, as such mats are sure to be used in conspicuous places, thus making the advertisement lasting at the original cost.

Write us and we will cheerfully submit special design and prices.



## Stair Nosings

When used in connection with rubber treads give a finished appearance to the steps and prevent wear on the edges.

### PRICE LIST

Brass		Patent Rubber	
$\frac{3}{4}$ inch wide, extra heavy, per ft.	\$.20	Reversible, per foot	\$.00
$1\frac{1}{4}$ inches wide, medium per ft.	.20	Non-reversible No. 1, per foot	.00
$1\frac{1}{2}$ inches wide, medium, per ft.	.24	Non-reversible No. 2, per foot	.00
2 inches wide, medium, per foot.	.40		
Galvanized iron		Zinc	
$\frac{3}{4}$ inch wide, per foot	.18	$1\frac{1}{4}$ inches wide, per foot	.12
		$1\frac{1}{2}$ inches wide, per foot	.16
		2 inches wide, per foot	.32

## Patent Rubber Bindings

For sewing on the ends of rubber matting when used as a runner, giving a more finished appearance and preventing wear at the ends. Also suitable for fibre mattings, carpets and rugs, to prevent fraying.

Made in all lengths up to 72 inches and in various widths and patterns. Two and one-half inch width furnished unless otherwise specified.

### FURNISHED IN THE FOLLOWING SIZES:

$1\frac{1}{2}$ ft. long, $2\frac{1}{2}$ in. wide	$3\frac{3}{4}$ ft. long, $2\frac{1}{2}$ in. wide
$2\frac{1}{4}$ ft. long, $2\frac{1}{2}$ in. wide	$4\frac{1}{2}$ ft. long, $2\frac{1}{2}$ in. wide
3 ft. long, $2\frac{1}{2}$ in. wide	6 ft. long, $2\frac{1}{2}$ in. wide



A Row of Tubing Machines

## Rubber Tubing

**T**HE diversified uses to which Rubber Tubing is adapted have resulted in its manufacture becoming one of the most important branches of our output. Our Tubing Department is larger and better equipped than that of any rubber factory in the world and contains the most modern machinery, as well as many appliances of our own invention, thus equipping us to manufacture at minimum cost. The rubber is carefully selected for its adaptability to each particular requirement, thoroughly mixed and refined to eliminate foreign matter and will not harden or crack. Our line embraces everything for which rubber tubing is adapted.



Hand-wrapped Tubing—White

White Hand-made Tubing is designed for general laboratory use. Manufactured of pure white rubber, very evenly wrapped and free from lumps and seams. One of the most difficult arts in compounding white rubber is to obtain a stock that will preserve its original softness and not deteriorate or harden. Our hand-wrapped white tubing is guaranteed longer lived than any other white hand-made tubing manufactured.

Carried in stock in all sizes from  $\frac{1}{8}$  inch to  $\frac{3}{8}$  inch in light ( $\frac{1}{16}$  inch) wall, and from  $\frac{1}{4}$  to 1 inch inclusive in heavy ( $\frac{1}{8}$ -inch) wall—all in 6 and 12-foot lengths. Medium weight ( $\frac{3}{32}$ -inch) wall made to order at short notice.

PRICE LIST

Internal Diameter Inch	$\frac{1}{16}$ -inch Wall Per Foot	$\frac{3}{32}$ -inch Wall Per Foot	$\frac{1}{8}$ -inch Wall Per Foot
$\frac{1}{8}$	\$ .08	\$ .08	\$ .08
$\frac{3}{16}$	.12	.12	.12
$\frac{1}{4}$	.12	.14	.16
$\frac{5}{16}$	.14	.16	.18
$\frac{3}{8}$	.15	.18	.20
$\frac{1}{2}$	.19	.22	.25
$\frac{5}{8}$	.23	.27	.30
$\frac{3}{4}$	.27	.31	.35
$\frac{7}{8}$	.30	.35	.40
1	.34	.39	.45

**Smooth  
Machine  
Tubing**



**Corrugated  
Machine  
Tubing**

## Machine Tubing

This is the commercial term usually used to designate a style of white rubber tubing designed for general uses. Our stock grade is made of specially selected rubber, very firm, tough and durable, and guaranteed better and whiter than any similar priced tubing on the market. It is carried in stock in sizes as listed below, in boxes containing 50 feet, or made to order in any other size desired; or in black or red rubber, and in large variety of qualities to meet special conditions of service.

### **Stock Sizes, White Machine Tubing Smooth and Corrugated**

$\frac{1}{8}$  inch and  $\frac{3}{16}$  inch by  $\frac{1}{16}$  inch wall.

$\frac{1}{4}$  inch to  $\frac{1}{2}$  inch by  $\frac{1}{16}$  inch,  $\frac{3}{32}$  inch and  $\frac{1}{8}$  inch wall.

$\frac{5}{8}$  inch and  $\frac{3}{4}$  inch by  $\frac{3}{32}$  inch and  $\frac{1}{8}$  inch wall.

Price per pound, 75 cents.



## Pure Black Tubing

(Acid Tubing)

For conveying all kinds of acids; usually made with heavy wall and of soft, pure rubber especially compounded to resist the action of acids. This style tubing is particularly suited for cutting into washers, buffers, etc. Carried in stock in the following sizes and in 12-foot lengths. Cut pieces furnished if desired.

### PRICE LIST

Internal Diameter Inch	External Diameter Inches	External Diameter Inch	External Diameter Inches
$\frac{1}{4}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{3}{4}$
$\frac{3}{8}$	$\frac{3}{4}$	1	$1\frac{1}{8}$
$\frac{1}{2}$	$\frac{7}{8}$	1	
$\frac{5}{8}$	$1\frac{1}{4}$		
$\frac{3}{4}$	$1\frac{1}{4}$		

Price per pound, \$1.50.





## Bottling Tubing

For Beer and Other Liquors

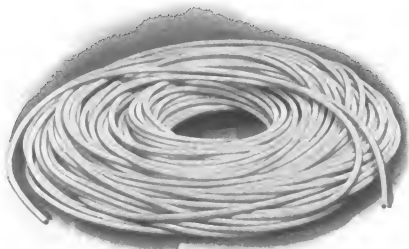
A pure red rubber tubing, firm and non-collapsible, and guaranteed not to soften under the action of beer. Its use will obviate foaming and other bottlers' troubles so commonly experienced. Manufactured in two grades—hand wrapped and machine made. Carried in stock in two sizes,  $\frac{5}{16}$  inch and  $\frac{3}{8}$  inch by  $\frac{1}{16}$  inch wall, in 12-foot lengths. Special sizes made to order at few days' notice.

Hand-made, per pound \$2.50.

Machine-made, per pound \$2.00.

## Piano Player Tubing

No branch of the rubber industry has received more careful consideration by our rubber experts than the manufacture of tubing for use on piano players. This is one of the most important and largest issues of our Tubing Department, and with a comprehensive knowledge of the peculiar requirements of the different parts of the instrument, and improved machinery for accurate gauging, we are prepared to guarantee absolute satisfaction as to suitable quality, accuracy in size and durability.





### **Baby Carriage Tubing**

For tiring the wheels of baby carriages and velocipedes. Manufactured of a good quality black rubber especially adapted for hard service. Carried in stock in  $\frac{3}{8}$ -inch size. Other sizes to order at short notice.

Price per pound, 50 cents

### **Bath Spray Tubing**

A firm white rubber tubing, smooth or corrugated surface. Will not crack on the fittings or deteriorate under the action of hot water. Carried in stock in standard sizes and all lengths.

Price per pound, 75 cents

### **Acetylene Gas Tubing**

For connection between gas lamps and generators on automobiles. Manufactured of finest grade red rubber and fully warranted for the service. Carried in stock in standard sizes,  $\frac{3}{16}$  inch and  $\frac{1}{4}$  inch internal diameter, and in 50-foot lengths. Cut pieces furnished if desired.

Price per foot,  $\frac{3}{16}$  inch, 12 cents

Price per foot,  $\frac{1}{4}$  inch, 16 cents

### **Syrup Tubing**

Of pure white, red or black rubber. Carried in stock in white rubber only and in standard sizes as listed.

Price per foot,  $\frac{1}{2}$  inch, 25 cents

Price per foot,  $\frac{3}{8}$  inch, 30 cents

### **Sap Tubing**

A very pure white rubber tubing of light wall.

Price per foot,  $\frac{3}{4}$  inch, 27 cents

### **Glass Blowers Tubing**

Of pure white rubber, firm, yet elastic and very tough; well adapted for pressure or vacuum. Carried in stock in standard size in 6 and 12-foot lengths.

Price per foot, 16 cents

### **Sand Blast Tubing**

Made of soft, pure rubber in any size desired—very tough and durable. Particularly adapted for polishing and cleaning metal goods by sand blast process. Not carried in stock but made to order at a few days' notice.



## Cloth Insertion Hose

For Water, Air, Beer Pumps, Etc.

Made in white, red and black rubber. White carried in stock in 6 and 12-foot lengths, 2-ply,  $\frac{1}{8}$ -inch wall; Red in 50-foot lengths, 3-ply,  $\frac{1}{8}$ -inch wall—in all sizes,  $\frac{3}{16}$  to  $\frac{1}{2}$  inch inclusive. Red furnished in cut pieces if desired.

### PRICE LIST

Internal Diameter Inch	Per Foot	Internal Diameter Inch	Per Foot
$\frac{1}{8}$	\$ .10	$\frac{1}{2}$	\$ .28
$\frac{3}{16}$	.14	$\frac{5}{8}$	.33
$\frac{1}{4}$	.18	$\frac{3}{4}$	.38
$\frac{5}{16}$	.20	$\frac{7}{8}$	.44
$\frac{3}{8}$	.23	1	.50

### Extra Heavy Red Pressure Hose For Beer Pumps

$\frac{1}{2}$  inch, 5-ply,  $\frac{5}{32}$ -inch wall, per foot 32 cents

$\frac{1}{2}$  inch, 5-ply,  $\frac{3}{16}$ -inch wall, per foot 35 cents



### Braided High Pressure Hose

A pure rubber hose with a very strong linen jacket, braided in checks of different colors and weaves of various patterns. The jacket is firmly vulcanized to the rubber, producing a hose that will stand enormous pressure. Especially suited for automobile foot and power pumps, and all purposes where a high pressure hose is required. Made in 500-foot lengths but also supplied in shorter pieces if desired.

#### PRICE LIST

$\frac{3}{16}$ inch internal diameter, per foot	\$ .12
$\frac{1}{4}$ inch internal diameter, per foot	.16
$\frac{5}{16}$ inch internal diameter, per foot	.20
$\frac{3}{8}$ inch internal diameter, per foot	.24
$\frac{1}{2}$ inch internal diameter, per foot	.32



### Soda Water Hose

For charging soda water tanks. Made extra heavy with white cover and dark pure rubber lining, especially prepared so as not to taint the liquids conveyed. Carried in stock in 7-ply only, and furnished in any length desired.

#### PRICE LIST

$\frac{3}{8}$ inch, 5-ply, per foot	\$ .32
$\frac{3}{8}$ inch, 6-ply, per foot	.38
$\frac{3}{8}$ inch, 7-ply, per foot	.44

### Bicycle and Automobile Pump Hose

Manufactured in black rubber  $\frac{1}{8}$  inch and  $\frac{3}{16}$  inch, 2-ply, for hand and foot pumps;  $\frac{3}{16}$  inch and  $\frac{1}{4}$  inch, 3, 4, and 5-ply, for automobile high pressure pumps. We carry in stock  $\frac{1}{8}$  inch, 2-ply,  $\frac{3}{16}$  inch, 2 and 5-ply. Other sizes made to order at a few days' notice.

#### PRICE LIST

$\frac{1}{8}$ inch, 2-ply, per foot	\$ .10	$\frac{3}{16}$ inch, 5-ply, per foot	\$ .18
$\frac{3}{16}$ inch, 2-ply, per foot	.12	$\frac{1}{4}$ inch, 3-ply, per foot	.18
$\frac{3}{16}$ inch, 3-ply, per foot	.14	$\frac{1}{4}$ inch, 4-ply, per foot	.20
$\frac{3}{16}$ inch, 4-ply, per foot	.16	$\frac{1}{4}$ inch, 5-ply, per foot	.23

### Fire Extinguisher Hose

For chemical fire extinguishers. Manufactured of highest grade stocks carefully compounded to resist the deleterious effects of the acidulous liquids conveyed, and the high pressure to which the hose is subjected in service. Guaranteed to pass the inspection of the Board of Fire Underwriters. Carried in stock in 4-foot lengths.

$\frac{7}{16}$  inch, 3-ply, per foot 28 cents.



Press Room for Moulded Specialties

## Rubber Specialties

**T**HIS department, while ordinarily understood to cover all moulded goods, really includes every article manufactured in rubber other than the staple lines of mechanical rubber goods, such as hose, belting, packings, etc. It is one of the largest and most important departments of our factory; is constantly requiring additions in equipment and working force, and in the hands of experts is turning out night and day some of the most difficult and delicate productions in rubber possible to conceive. If it is possible to produce the desired article in rubber we are fitted for the work, and our services both in the experimental and manufacturing stage are at your command.

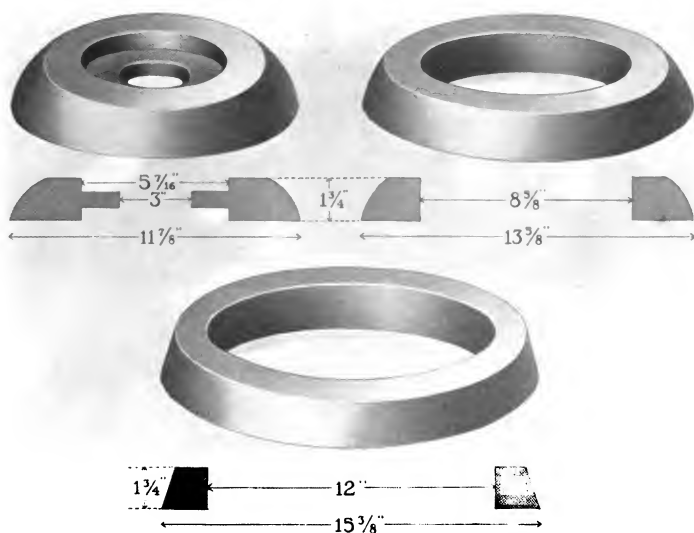
An idea of the method pursued in manufacturing moulded goods can be gathered from the illustration of one of our press rooms as shown on opposite page. The cavities (corresponding in size and shape to the article to be manufactured) of the mould are filled with the crude mixed rubber. The mould is then placed between the plates of the press, and the plunger or ram is then moved up under very heavy hydraulic pressure, forcing the rubber thoroughly into the cavities. Steam is then admitted directly on to the plates and mould, heating them and causing vulcanization of the rubber. The degree of heat and time for vulcanization varies with the mixture of rubber and the article that is being made. The greater the number of pieces that can be vulcanized at one heat, the lower the labor cost.



## Moulds

Our machine shop is equipped with most modern appliances and labor-saving devices, and the best machinists obtainable are employed. We are therefore able to produce work of this character at the lowest possible cost, and as the construction of moulds for rubber vulcanizing is different from other lines of mould-making, we recommend that customers permit us to make the necessary moulds. However, if preferred, we will furnish working drawings showing how moulds should be constructed and what allowance should be made for shrinkage of rubber in the vulcanizing process.





## Brewers' Wheels and Rings

For Keg Washing Machines

Manufactured in a great many sizes to fit various makes of machines, and of tough, durable rubber to withstand the severe rubbing and pounding to which they are subjected. Sectional outline sketches of some of the more standard sizes are shown on the top of this page; in addition to which we are prepared to furnish special sizes at short notice or to re-cover iron centers.

Price per pound, 75 cents.

PRESS BAG  
PROTECTOR



PRESS  
BAG



CURLING BAG  
PROTECTOR

END SECTION

SIDE SECTION

CURLING  
BAG

END SECTION

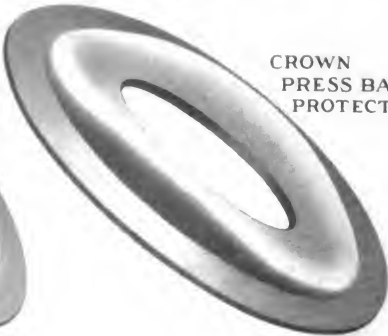
SIDE SECTION



CROWN  
PRESS  
BAG



CROWN  
PRESS BAG  
PROTECTOR



## Hat Bags

For manufacturers of felt and stiff hats. Made of finest Para rubber, carefully selected and thoroughly seasoned. The bags are built in such manner as to give greatest possible service. Warranted to outwear any other bag manufactured. The life of Hat Bags is greatly prolonged by the use of the Protectors as shown by cuts and list.

### PRICE LIST

Style	Bag	Protector
Old Style Crown Press, each. . . . .	\$10.00	\$ 6.00
New Style Crown Press, each . . . . .	12.00	7.00
Matrice or Curling, each. . . . .	16.00	12.00

## Hat Blocks

Solid Hat Blocks and Forms made to order in any size and shape desired, or Hat Block Forms filled with properly vulcanized compound.

Prices on application.



## Pouncing Rubbers

For hatter's use; moulded of Para rubber with true bevelled edge. Soft, pliable and very durable.

Price per dozen, \$24.00.

## Hatters' Unvulcanized Gum

For blocking and repairing. Furnished in several qualities as desired.

Prices on application.

## Hatters' Apron Cloth

A light weight cotton duck, rubber coated on one side. Carried in stock in rolls, 36 inches wide,  $\frac{1}{32}$  inch thick.

Price per yard, \$1.50.



## Chemists' Laboratory Stoppers

Made of pure rubber, light weight, very soft and flexible, will not harden with age. Furnished either solid or with one, two or three holes, as desired.

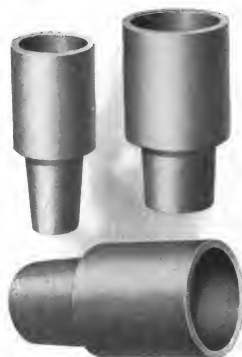
Size No.	Diameter Large End Inches	Diameter Small End Inches	Length Inches	Size Hole or Holes Inches	Approximate Weight Per Gross, Solid Pounds
00	$\frac{9}{16}$	$\frac{3}{8}$	1	$\frac{7}{64}$	$1\frac{1}{4}$
0	$\frac{21}{32}$	$\frac{1}{2}$	$1\frac{31}{32}$	$\frac{7}{64}$	$1\frac{3}{4}$
1	$\frac{3}{4}$	$\frac{9}{16}$	1	$\frac{5}{32}$	$2\frac{9}{16}$
2	$\frac{13}{16}$	$\frac{5}{8}$	1	$\frac{5}{32}$	$2\frac{3}{4}$
3	$\frac{15}{16}$	$\frac{23}{32}$	1	$\frac{3}{16}$	$3\frac{3}{4}$
4	1	$\frac{25}{32}$	1	$\frac{3}{16}$	$4\frac{3}{8}$
5	$1\frac{1}{16}$	$\frac{29}{32}$	1	$\frac{3}{16}$	$5\frac{1}{8}$
6	$1\frac{1}{4}$	1	1	$\frac{7}{32}$	$6\frac{7}{8}$
7	$1\frac{15}{32}$	$1\frac{5}{32}$	1	$\frac{7}{32}$	$9\frac{7}{8}$
8	$1\frac{5}{8}$	$1\frac{5}{16}$	1	$\frac{7}{32}$	$12\frac{1}{2}$
9	$1\frac{23}{32}$	$1\frac{15}{32}$	1	$\frac{7}{32}$	$13\frac{7}{8}$
10	2	$1\frac{21}{32}$	$1\frac{1}{32}$	$\frac{7}{32}$	$19\frac{1}{8}$
11	$2\frac{7}{32}$	$1\frac{29}{32}$	1	$\frac{7}{32}$	$22\frac{3}{4}$
12	$2\frac{1}{2}$	$2\frac{1}{8}$	$1\frac{1}{8}$	$\frac{7}{32}$	$32\frac{3}{8}$
13	$2\frac{23}{32}$	$2\frac{11}{32}$	$1\frac{1}{8}$	$\frac{7}{32}$	$38\frac{1}{2}$

Price per pound, \$2.00.

## No-Air Stoppers

No-Air Stoppers are in a class by themselves. The cap folding down over the neck of the bottle makes it absolutely tight, and the most severe shaking will not dislodge it. Indispensable for hospitals, physicians and for travelers in general. Absolutely preventive of leaking or waste from evaporation, and the rubber so compounded as not to affect the most delicate substance or liquids. Made in seven sizes, maroon colored rubber, and packed in neat boxes.

No.	Plug Taper, Inch	Price per Gross
1	$\frac{21}{64}$ to $\frac{9}{32}$	\$3.00
2	$\frac{23}{64}$ to $\frac{5}{16}$	3.75
$2\frac{1}{2}$	$\frac{3}{8}$ to $\frac{21}{64}$	4.50
3	$\frac{7}{16}$ to $\frac{3}{8}$	6.00
4	$\frac{1}{2}$ to $\frac{7}{16}$	7.50
5	$\frac{9}{16}$ to $\frac{1}{2}$	9.00
6	$1\frac{1}{16}$ to $\frac{5}{8}$	11.25





New Style



Old Style

## Rubber Stoppers

For bottling ammonia and other liquids that would destroy an ordinary cork. Made of a good grade white rubber that will retain its original softness for a long period.

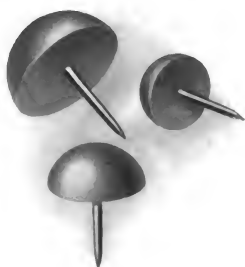
### OLD STYLE

No.	Length, Inches	Taper, Inches	Number in Box	Price per Hundred
0	2	1 $\frac{5}{32}$ to $\frac{23}{32}$	100	\$10.00
1	1 $\frac{27}{32}$	1 $\frac{3}{32}$ to $\frac{5}{8}$	100	6.50
2	1 $\frac{19}{32}$	$\frac{29}{32}$ to $\frac{5}{8}$	100	4.50
2 $\frac{1}{2}$	1 $\frac{1}{4}$	$\frac{27}{32}$ to $\frac{19}{32}$	200	3.25
3	1 $\frac{3}{16}$	$\frac{25}{32}$ to $\frac{1}{2}$	200	2.50
3 $\frac{1}{2}$	1	$\frac{3}{4}$ to $\frac{1}{2}$	500	2.25
4	1 $\frac{3}{32}$	$\frac{5}{8}$ to $\frac{13}{32}$	500	1.50
4 $\frac{1}{2}$	$\frac{7}{8}$	$\frac{21}{32}$ to $\frac{1}{2}$	500	1.50
5	$\frac{7}{8}$	$\frac{17}{32}$ to $\frac{5}{16}$	500	1.00
5 $\frac{1}{2}$	$\frac{7}{8}$	$\frac{17}{32}$ to $\frac{13}{32}$	500	1.00
6	$\frac{7}{8}$	$\frac{1}{2}$ to $\frac{5}{16}$	1000	.75
6 $\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{2}$ to $\frac{3}{8}$	1000	.75
7	$\frac{5}{8}$	$\frac{13}{32}$ to $\frac{7}{32}$	1000	.60

### GOVERNMENT STYLE (New Style)

No.	Length, Inches	Taper, Inches	Number in Box	Price per Gross
0	$\frac{9}{16}$	$\frac{11}{32}$ to $\frac{9}{32}$	5 gross	\$1.00
1	$\frac{9}{16}$	$\frac{7}{16}$ to $\frac{5}{16}$	5 gross	1.20
2	$\frac{11}{16}$	$\frac{1}{2}$ to $\frac{3}{8}$	5 gross	1.50
3	$\frac{3}{4}$	$\frac{9}{16}$ to $\frac{7}{16}$	3 gross	1.90
4	$\frac{13}{16}$	$\frac{5}{8}$ to $\frac{1}{2}$	3 gross	2.60
5	$\frac{7}{8}$	$\frac{11}{16}$ to $\frac{1}{2}$	2 gross	3.50
6	$\frac{15}{16}$	$\frac{3}{4}$ to $\frac{9}{16}$	2 gross	4.00
7	1	$\frac{13}{16}$ to $\frac{5}{8}$	1 gross	5.25
8	1 $\frac{1}{16}$	$\frac{7}{8}$ to $\frac{11}{16}$	1 gross	7.25
9	1 $\frac{1}{8}$	$\frac{15}{16}$ to $\frac{3}{4}$	1 gross	8.00
10	1 $\frac{1}{4}$	1 to $\frac{13}{16}$	1 gross	9.50

## Tack Bumpers



To deaden noise and cushion the contact of two wooden surfaces. Made of a good quality soft rubber on a broad whole-headed tack and warranted not to separate from the metal tack. Put up in separate boxes.

No. 1, containing 1 1/2 gross.

No. 2, containing 3 gross.

No. 3, containing 6 gross.

### PRICE LIST

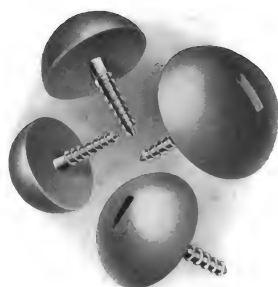
No. 1—5/8-inch diameter head, per gross \$1.10

No. 2—1/2-inch diameter head, per gross .75

No. 3—3/8-inch diameter head, per gross .45

## Screw Bumpers

These Bumpers are warranted superior in durability. The rubber is of selected stock moulded to screws having a broad, concave washer on the head which absolutely prevents the rubber breaking off. Guaranteed to hold until the tip wears out. Screw bumpers are slotted for screw driver. Put up in boxes containing six dozen.



### PRICE LIST

No. 1—3/4-inch diameter head, per gross \$4.20

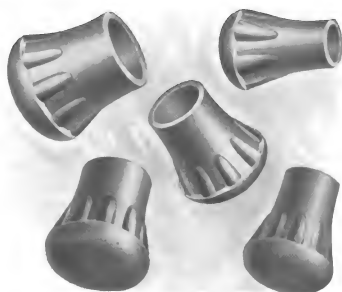
No. 2—7/8-inch diameter head, per gross 4.80

No. 3—1-inch diameter head, per gross 6.00

No. 4—1 1/8-inch diameter head, per gross 7.20

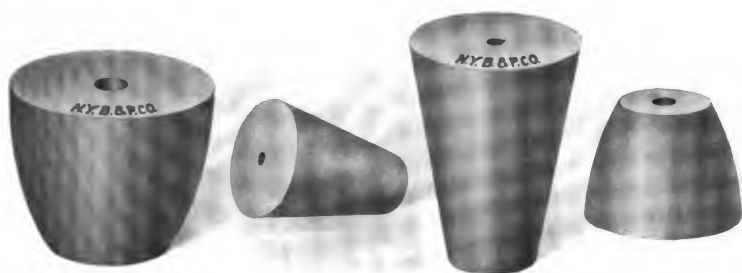
## Chair and Crutch Tips

For use on chairs, crutches, table legs, etc. Made from an exceedingly tough and durable rubber, especially designed to resist hard wear.



### PRICE LIST

No.	Diameter Inside Inches	Price Per Dozen
17	5/8	\$ .95
18	3/4	1.10
19	7/8	1.20
20	1	1.40
21	1 1/8	1.60



## Bradley Hammer Cushions

Our cushions are compounded on scientific principles, based on a thorough knowledge of the severe conditions of service required, and are guaranteed of best quality rubber for the work. Not a cheap cushion but one that will prove its economy by its length of service.

### UPPER

Hammer Pounds	Diameter Top Inches	Diameter Bottom Inches	Length Inches	Hole Inches	Approximate Weight, Each Pounds
25	$3\frac{7}{16}$	$1\frac{13}{16}$	$4\frac{1}{4}$	$\frac{7}{16}$	$1\frac{1}{2}$
40	$3\frac{15}{16}$	$1\frac{7}{8}$	5	$\frac{3}{8}$	$2\frac{1}{2}$
60	$4\frac{7}{8}$	$2\frac{13}{16}$	8	$\frac{3}{4}$	$6\frac{1}{8}$
80	$4\frac{7}{8}$	$2\frac{13}{16}$	8	$\frac{3}{4}$	$6\frac{1}{8}$
100	$4\frac{7}{8}$	$2\frac{13}{16}$	8	$\frac{3}{4}$	$6\frac{1}{8}$

### LOWER

Hammer Pounds	Diameter Top Inches	Diameter Bottom Inches	Length Inches	Hole Inches	Approximate Weight, Each Pounds
25	4	$2\frac{1}{4}$	3	$\frac{3}{4}$	$1\frac{7}{8}$
40	$4\frac{13}{16}$	3	$3\frac{1}{2}$	$\frac{3}{4}$	3
60	$6\frac{1}{16}$	$3\frac{11}{16}$	5	$\frac{11}{16}$	$7\frac{5}{8}$
80	$7\frac{5}{16}$	$3\frac{15}{16}$	$5\frac{1}{2}$	$\frac{11}{16}$	12
100	$8\frac{1}{16}$	$4\frac{3}{8}$	$5\frac{3}{8}$	$\frac{11}{16}$	14

Price per pound, \$1.50.



## Cylinder Springs

We are prepared to furnish cylinder springs in all sizes from 1 inch to 16 inches diameter, with any size hole desired. Lengths averaging 12 to 24 inches. Carried in stock in all sizes up to and including 6 inches diameter in the original New York Belting & Packing Company Car Spring quality, referred to as a standard for over twenty years. Warranted the best spring stock on the market.

Price per pound, \$1.50.

Approximate weight, one ounce per cubic inch.

## Die Stamping Springs

A medium soft rubber cushion, cylindrical in shape; of tough, durable rubber that will not cut out readily under the impact of the dies. Furnished to order in any size wanted.

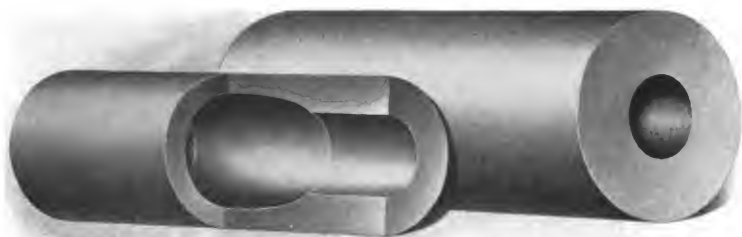
Price per pound, \$1.50.

## Hub Springs

Made to order only in qualities to meet special requirements.

Length Inches	Diameter at Ends Inches	Diameter at Centers Inches	Length Inches	Diameter at Ends Inches	Diameter at Centers Inches
2½	2 <sup>9</sup> / <sub>16</sub>	3	6½	2	3 <sup>5</sup> / <sub>16</sub>
2¾	3 <sup>1</sup> / <sub>16</sub>	3 9 <sup>9</sup> / <sub>16</sub>	6¾	2½	3¾
3	2¼	2 3 <sup>3</sup> / <sub>4</sub>	7	4	5½
4	2½	3 ¼	7	3½	4½
4¼	1¾	2 <sup>13</sup> / <sub>16</sub>	7	3	3¾
5	3	4	7	2¾	3½
5	3¾	4 ½	7	3	4¼
5½	2½	3 ¾	7	2¾	4
6	4	5	7¾	4	5
6	2¾	3 9 <sup>9</sup> / <sub>16</sub>	8 <sup>5</sup> / <sub>8</sub>	3½	4½





### Oil Well Packers and Swab Rubbers

Soft, resilient, light weight stocks, easily expanded, and made either with or without metal caps. We have a large assortment of moulds for a variety of sizes, or can furnish special sizes at short notice. Manufactured in several qualities.

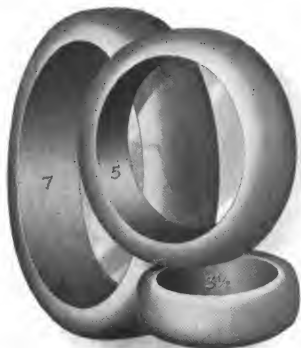
Price without caps, per pound \$1.50.

### Oil and Gas Well Rings

For pipe joints, flushing rods, sucker rods. Very soft and flexible and guaranteed to make an absolutely tight joint when properly applied.

### Truck Wheel Tires

Moulded, for adjustable bolted flange wheels, a medium hard rubber, fully warranted as to durability and capable of sustaining the heaviest loads. All sizes carried in stock.



Size Inches	Minimum Diam. of Wheel Inches	Width of Face Inches	Price Each
2½	1½	1⅛	\$ .17
3	2⅝	1⅛	.25
3½	2⅞	1⅜	.32
4	3⅛	1⅝	.40
5	4⅛	1⅜	.55
6	5⅛	1⅞	.70
7	5⅝	1¾	.85
8	6⅝	1⅝	1.00
9	7⅝	2	1.50
10	9	2⅝	Special

Snap Bands for solid flanged wheels, per pound \$1.50.

Tires vulcanized on flat face wheels, per pound \$2.50.



### Sheave Filling or Wire Rope Transmission Packing

We have a very large assortment of moulds, and are able to supply proper filling for almost any pulley without mould expense. The stock is tough and durable—especially compounded to resist the friction of the wire rope.

Price per pound, 75 cents.



### Rubber Mallets

For furniture and cabinet makers, foundries, bottling works, etc. Compounded from an especially high grade stock that will not chip or wear, and with best quality hickory handles inserted.

Carried in stock in three sizes as listed. Special weights furnished to order at short notice.



Style	Length of Head Inches	Diameter of Faces Inches	Approximate Weight Pounds	Price per Dozen
1	3	2 $\frac{1}{4}$	1 $\frac{1}{8}$	\$15.00
2	4	2 $\frac{3}{8}$	1 $\frac{5}{8}$	20.00
3	4 $\frac{7}{8}$	2 $\frac{1}{2}$	2 $\frac{1}{2}$	27.00

### Horse Medicine Bottles

For veterinarians' use. Made of pure rubber, very tough and durable. Indispensable for administering medicine to cattle.

Price per dozen, \$24.00.



## **Anti-Rattlers**

For Buggy Shafts

Manufactured in standard sizes,  $\frac{7}{8}$  inch, 1 inch and  $1\frac{1}{8}$  inches wide, cloth lined, 24-inch lengths, or cut into short pieces. Furnished to order in special qualities to meet particular requirements.

Stock quality, price per pound \$1.50.

## **Shaft Bushings**

Either cloth lined or cloth wrapped, or of pure rubber, in long or short pieces, and proper quality for the work.

Price per pound, \$1.50.

## **Gin Roll Covering**

Manufactured of duck specially woven for the purpose, and put together by a special process to give the best possible surface for ginning. Will outwear walrus hide and does not cost a third as much. Made regularly in standard size  $\frac{5}{8}$  inch square and 20-foot lengths, or special sizes and 100-foot lengths if desired.

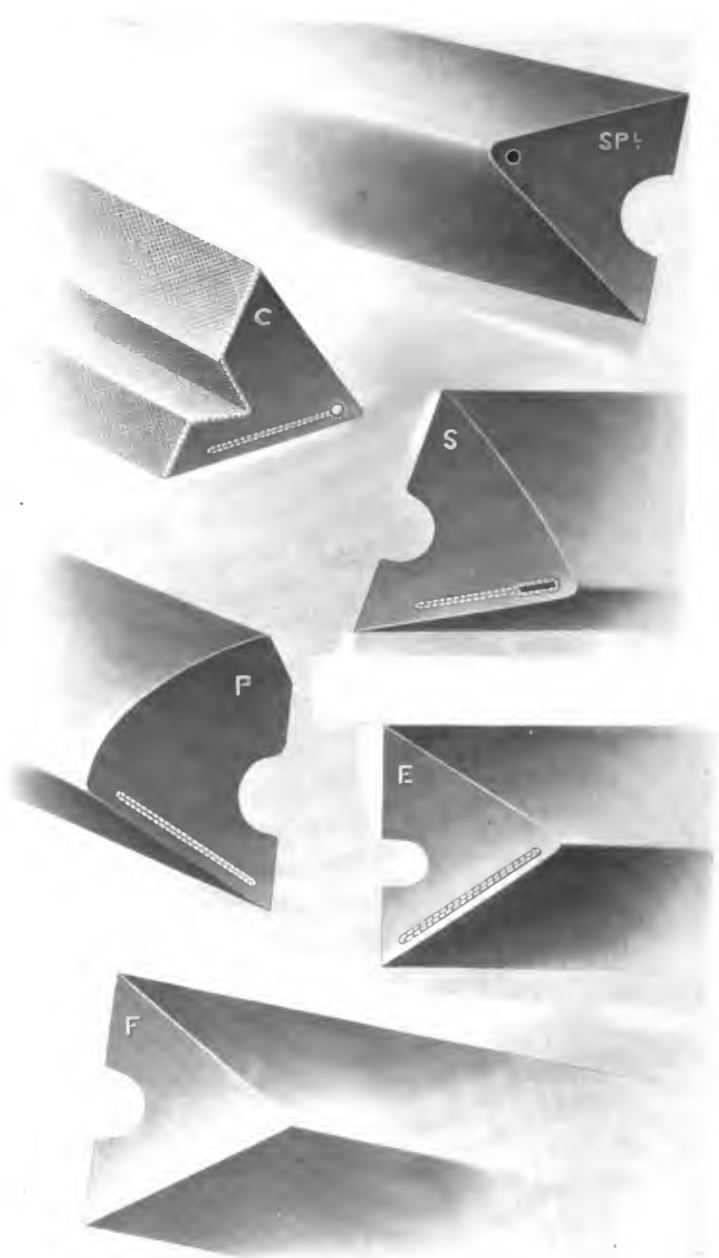
Price per pound, 75 cents.



## **Rubber Rollers or Tubes for Linotype Machines**

The rubber is specially prepared to resist the strong pressure of the Double Decker Machine. The tubes are ground absolutely true, and guaranteed not to glaze or get soft or to wear the cams.

Price each, \$1.00.



## Billiard and Pool Table Cushions

We were the pioneers in the manufacturing of Billiard Table Cushions. No article in rubber making requires such skill, care and accuracy in handling to produce cushions of the correct temper for speed and durability.

Our assortment of sizes and shapes is complete, consisting of some forty different patterns, enabling us to supply cushions for the most modern as well as old style tables. Full size cuts of some of the most popular shapes and sizes are shown on the opposite page.

Manufactured in three qualities, giving an assortment to meet the requirements of the most exacting players. Round or flat, highly tempered wire inserted without additional cost in the edge of BBE and ANI qualities if desired. This will give additional speed to the cushions, although we do not consider the wire edge cushions so long lived.

When ordering specify size of table and whether billiard or pool, style of cushion, quality and whether wanted with round or flat wire, or without.

### PRICE LIST

BBE quality, per pound \$5.00

ANI quality, per pound 4.00

KAI quality, per pound 3.00



## Rubber-covered Rolls

This is a department of the rubber industry requiring the most experienced and expert labor. Often rubber-covered rolls perform very important work and are practically indispensable. So much depends upon their efficiency and proper construction that a thorough and practical knowledge of the conditions of service is more requisite than in the manufacture of almost any other kind of rubber goods.

We are prepared to supply rolls for various kinds of service and in each case the stock or rubber used is scientifically compounded, from special study and experiment, to meet that particular kind of service. We apply covering to rolls by a special process of our own which we can warrant to give satisfactory service.

We are prepared to furnish the complete roll including iron center, or to cover customers' centers. In the latter case we prefer to prepare the surface of the iron body for rubber covering.

When corresponding about rolls the following information is essential to enable us to handle the inquiry, or order, intelligently:

### If Roll is to be Furnished Complete:

- Purpose for which roll is to be used.
- Diameter of iron rolls.
- Finished diameter of covered roll.
- Distance between shoulders.
- Length and diameter of bearings.
- Length of roll over all.
- Density of rubber required.

### If Roll is to be Covered Only:

- Character of service.
- Diameter of iron body.
- Diameter of covered roll.
- Length of face.
- Density of rubber required.

## Rubber-covered Rolls

(Continued)

### In Shipping Rolls

They should be boxed so that the roll rests on its bearings, and the box should be about one inch larger than the diameter the roll is to be finished. Care should be taken to see that the rubber does not come in contact with the box, and that there are no loose nails or screws to injure the surface of the rubber. Rolls should always be handled by their journals.

## Screen Diaphragms

For Pulp and Paper Mill Service

In proper sizes for any standard make of screen. Soft and flexible and with extra thick cover on wearing surface. The constant and rapid vibration to which these Diaphragms are subjected necessitates that the duck be specially strong and the plies held together with a strong friction, otherwise separation occurs, moisture enters between the plies and the vibration quickly tears the Diaphragm to pieces.

In the makeup of these goods a special technical knowledge obtains of their requirements, so that we can offer the Diaphragms, knowing that in service and durability they will not be found wanting.

When ordering specify length, width and thickness.

### PRICE LIST

$\frac{1}{4}$  inch thick, per square foot \$1.43

$\frac{5}{16}$  inch thick, per square foot 1.78

$\frac{3}{8}$  inch thick, per square foot 2.15

## Screen Gaskets

For Pulp-Making Screens

Made in the same thorough manner as our Screen Diaphragms, the duck and rubber friction being carefully selected and put together, so as to assure maximum durability. When ordering, specify length and width inside and outside, and thickness.

Price per pound, \$1.00.

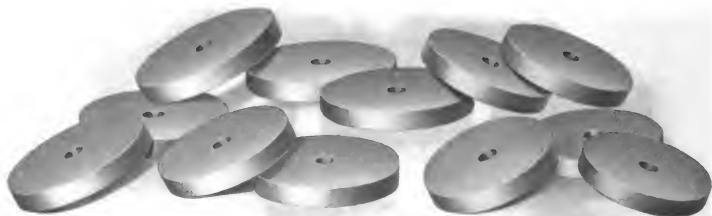


## Pure Rubber Cement

For engravers, lithographers and artists. Made from absolutely pure Para rubber, and for paper-board making is more tenacious than glue. The cement is transparent and colorless and will not soil the drawing where used in connection with an air brush. Is readily thinned down to any consistency by the addition of naphtha. Also especially suitable for bristle-brush and feather work.

Carried in stock in air-tight cans as listed.

No. 1, quarts, price per dozen.....	\$14.40
No. 2, pints, price per dozen.....	7.20
No. 3, half pints, price per dozen.....	3.60
1-gallon cans, price each.....	4.50
5-gallon cans, price each.....	20.00



## Beer Bottle Discs

The skill of the most expert rubber compounders is well illustrated in this article. Manufactured of a non-blooming, red rubber—a real rubber. Warranted to retain its life and color and not to split in attaching to the stopper. These goods carry with them the broad guarantee of "none better made." Furnished in any size desired.

Price per pound, \$3.50.



## Black Discs for Soda Water Bottles

This disc is of exceedingly tough and tenacious rubber and warranted not to split on the stopper or taint the contents of the bottles. We especially solicit large users to investigate these goods thoroughly and invite the most rigid comparison with discs of other makes. Manufactured in one grade only and guaranteed to have no superior.

Price per gross, 50 cents.

## Squilgee Rubber

For window, floor and sidewalk cleaners. Furnished in sheets or strips, or cut accurately and true to sizes desired. Carried in stock  $\frac{1}{8}$ ,  $\frac{3}{16}$  and  $\frac{1}{4}$  inch thick.

Price per pound, \$1.40.



## Glaziers' Rubber or Window Sash Packing

For street and railway cars, automobile wind shields, etc., or any place where it is necessary to provide a soft cushion to prevent breakage of glass from vibration. Made in any size desired.

Price per pound, 75 cents.

## Coffin or Casket Strips

Either square or half round, in red, black or white rubber, any length desired. Net prices quoted on application.

## Typewriter Platens

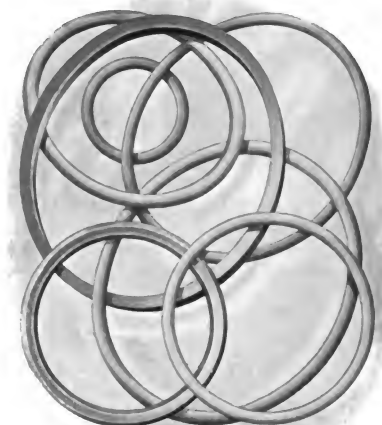
Rubber covers for typewriter cylinders made of carefully selected and sifted stocks to eliminate foreign matter, and very uniform in density. Manufactured in any degree of hardness desired, and in proper sizes for all makes of typewriters.

Prices on application.

## Typewriter Feed Rolls

Shafts covered with the proper vulcanized compound and ground true and accurate; or tubing furnished in accurate sizes and of proper hardness to give best results.

Prices on application.



### **Creamery Separator Rings**

One of the most essential parts of the modern cream separator is a perfect joint, which can only be obtained by the use of rubber rings. Under the high centrifugal force at which the separators revolve, if the ring does not fit perfectly or is not of proper density the separator will leak. Our rings are guaranteed of right quality, absolutely accurate in size, and to give uniform satisfaction. Let us estimate on your requirements and we know we can satisfy you.



### **Sugar Press Rings**

Including evaporator, filter press, caloriser and all special shapes as used on sugar presses. We have a large assortment of moulds for most of the standard shapes as used, and are prepared to furnish special shapes at short notice. Qualities are guaranteed right and density correct for making perfect joints. Send sketch showing size of ring desired and state purpose for which used, and we will cheerfully furnish estimate.

### **Electric Light Washers**

For use on exposed lamps and electric signs to prevent moisture entering between lamp and socket and making a short circuit. Made in round, oval and square flange as well as special shapes. Send us sketch of ring desired and prices will be cheerfully quoted.

### **Special Rings**

For bath spray, for bung—round, square and octagon flange, pipe testing rings, ice machine rings, ammonia rings, spooler rings, round flange rings, in any size.



### **Bumpers**

For furniture, upholstering, plumbers' use, etc. The large variety of shapes required prevents enumerating more than a few, but we are prepared to furnish bumpers in any size or quality and for any purpose. Furnish us with details as to your wants and prices will be cheerfully quoted.

### **Moulded Soles, Soling and Rubber Heels**

We are prepared to furnish this line in proper qualities for service, and with our modern machine shop can make special sole and heel moulds at minimum cost. Estimates cheerfully furnished.

### **Dry Dock Packing**

Made in various sizes and shapes and of highest grade stocks; guaranteed to meet Government specifications, if desired.

### **Typewriter Plugs or Feet**

Made in all the different shapes and sizes for standard makes of typewriters, and in special shapes as desired. The quality is correct and does not harden or lose its elasticity.

### **Beer Pump Rubbers**

Our line includes Vent Valves, Thomas Valves, both round and flange top; Teat Valves, and Bung Rings in all shapes. Made of right qualities of stock to give proper results, and accurate in size and shape.

### **Floor Gaskets**

Manufactured in very many shapes and sizes. Send us sketch of the gasket you desire, and we will guarantee to satisfy you.

### **Cement Stock**

For the manufacture of asbestos and other packings, made of white rubber, tough and tenacious, and sets very quickly.

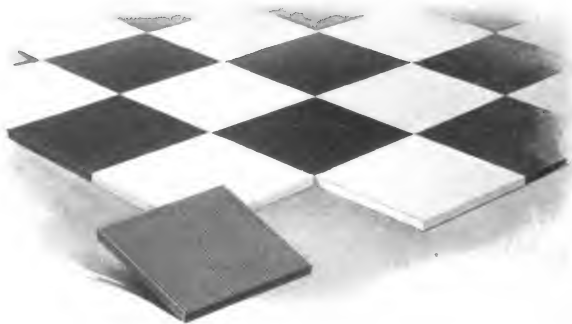


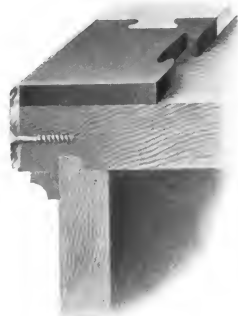
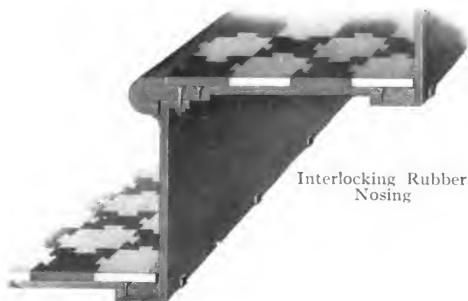
## Interlocking Rubber Tiling

**Noiseless, Sanitary, Waterproof, Non-slippery,  
Odorless, Fire-resisting**

Interlocking Rubber Tiling is the most durable floor covering made. It is manufactured of a high grade rubber compound in tiles that interlock perfectly. Can be laid on any level foundation without cement, but when our impervious cement is used the flooring is absolutely water and germ proof. The variety of colors in which it is manufactured—red, white, light and dark green, buff, salmon, black, light and dark gray, blue, light and dark brown—permits of special designs harmonizing with other furnishings.

The new type of rubber tile shown in the accompanying illustration meets the requirements for a floor having rectangular units. Designs with character and dignity can thus be produced to harmonize with any scheme of decoration.

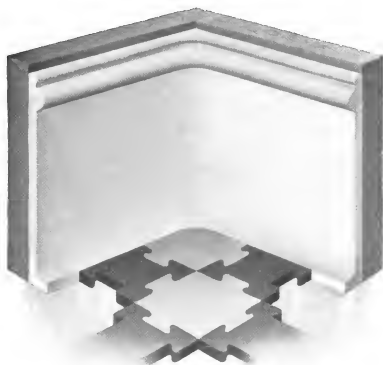




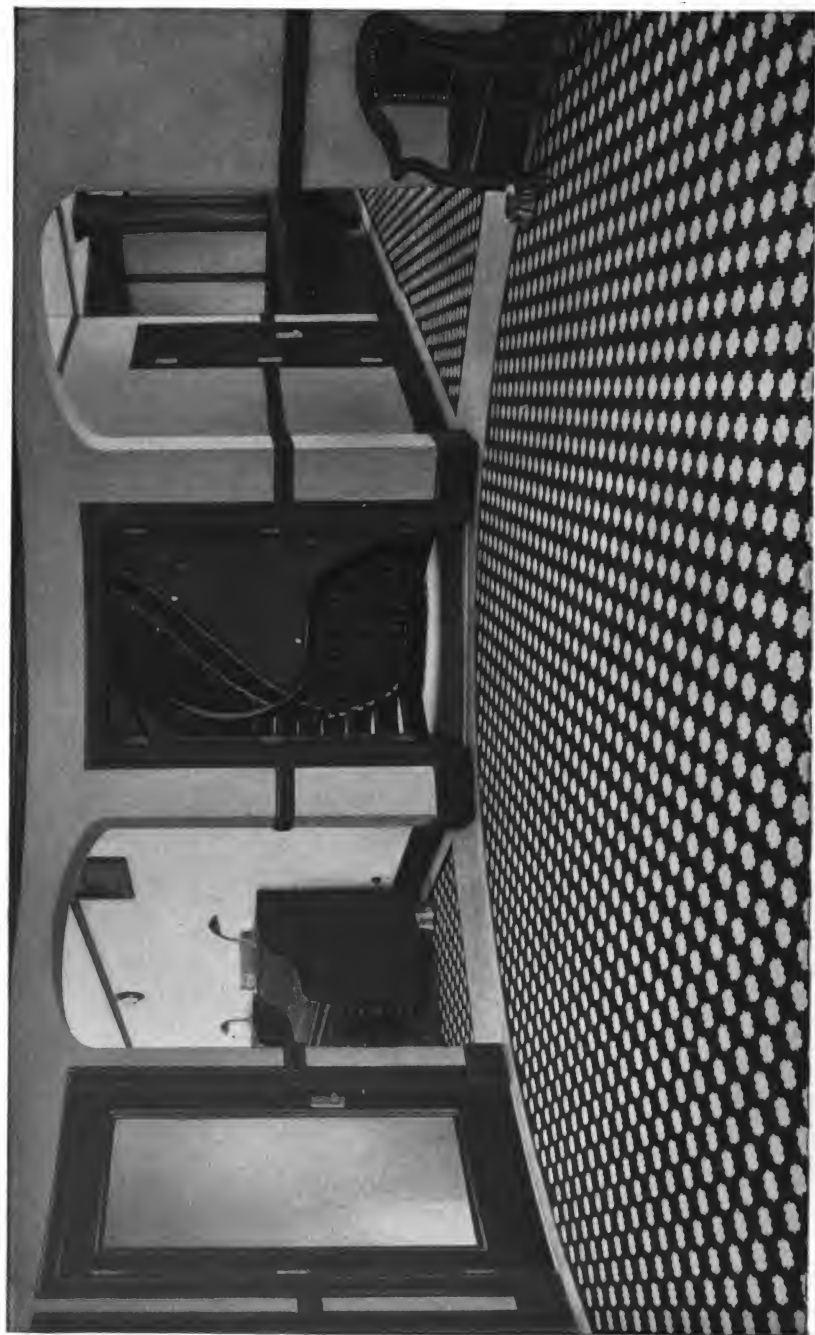
Polished Brass Nosing

## Interlocking Rubber Tiling

Interlocking Rubber Tiling is universally recognized as the ideal floor covering for kitchens and bath-rooms of residences, churches, banks, office buildings, theatres, court houses, clubs, hospitals, libraries, railway cars, steamships, etc. When laid on stairs an interlocking rubber nosing or polished brass nosing, as illustrated, can be supplied. It forms a noiseless, non-slippery, sanitary floor, and will last indefinitely under the most severe traffic conditions. The soft, rich, permanent colors of the tiles add a touch of luxury that cannot be produced with any other floor covering. The tiles will not absorb stains or impurities and ordinary washing keeps the floor lustrous and the tiles bright and clean.



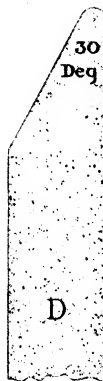
Sanitary Rubber Base



United States Rubber Company Building, New York



Upper Cabin, Ferryboat Binghamton, Delaware, Lackawanna & Western Railroad Company, New York





## Vulcanite Emery Wheels

The greatest objection heretofore to the use of Emery Wheels for factory and foundry work has been the fear of their bursting and causing injury to an operator, but our process of manufacture has entirely overcome this possibility, so that now there is hardly a factory or foundry with modern equipment that does not use an Emery Wheel for some purpose. In the manufacture of Vulcanite Emery Wheels the loose grains of emery are bound together by the finest grade of Para rubber, acknowledged to be, in its vulcanized state, the strongest binder known. The mixture of emery and rubber is forced into iron moulds and vulcanized under high pressure. The result produces a wheel of great strength and conceded to be the safest abrasive wheel manufactured, and the fastest cutting if properly speeded.

Vulcanite Emery Wheels are especially adapted for Malleable Iron Castings, Gray Iron Castings, Steel Castings, Brass Castings, Wrought Iron, Agricultural Implements, Twist Drills, Tool Work Cutlery, Car Couplers, Car Wheels, Stove Castings, Drop Forgings, Plow Points, Gumming and Sharpening Saws, Dental Purposes, General Machine Shop Work and many other purposes.

The Vulcanite Emery Wheel is furnished in any shape of face desired, as shown by cuts on opposite page. Square face, A, supplied unless otherwise specified.

The Vulcanite is also made into emery cones, buzzers, tapered sticks, rub stones, etc.

In ordering Emery Wheels it is necessary to specify diameter, width, size of hole in center, and grade of emery required, or the exact nature of the work to be performed.

We manufacture wheels on iron centers, thus causing a saving, as frequently the cores or centers can be used or refilled. It has been proved that centers one-half the diameter of the wheel are the most economical. Proper allowance for displacement of centers will be made, based on the ratio of the area of the center to that of the wheel, but no allowance in excess of 40 per cent will be made.

### Turning and Trueing Vulcanite Emery Wheels

On account of their extreme hardness an iron or steel cutting tool is useless for the work on the Vulcanite Wheel. For trueing, a diamond point tool is recommended, and a good method of removing glaze is to pass a red hot iron lightly over the surface. In operating, Emery Wheels should be mounted on strong, substantial frames and shaft bearings should be long and heavy.

# Vulcanite Emery Wheels

## PRICE LIST

Diameter Inches	Thickness, Inches								Revolutions Per Minute
	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{4}$	
1½	\$ .25	\$ .30	\$ .35	\$ .38	\$ .40	\$ .43	\$ .45	\$ .50	16554
2	.32	.39	.45	.48	.50	.53	.55	.60	12414
2½	.45	.55	.65	.68	.70	.73	.75	.82	9931
3	.55	.65	.75	.83	.90	.98	1.05	1.15	8277
3½	.65	.78	.90	.99	1.07	1.16	1.25	1.45	7094
4	.75	.88	1.00	1.13	1.25	1.38	1.50	1.75	6207
4½	.85	.99	1.13	1.27	1.41	1.56	1.70	2.03	5518
5	.95	1.10	1.25	1.41	1.57	1.74	1.90	2.30	4966
5½	1.05	1.23	1.40	1.63	1.86	2.10	2.33	2.85	4514
6	1.15	1.35	1.55	1.85	2.15	2.45	2.75	3.40	4138
6½	1.40	1.65	1.90	2.21	2.52	2.84	3.15	3.77	3820
7	1.53	1.79	2.05	2.40	2.75	3.10	3.45	4.17	3547
7½	1.65	1.93	2.20	2.59	2.97	3.36	3.75	4.57	3310
8	1.75	2.05	2.35	2.78	3.20	3.63	4.05	4.95	3103
8½	1.85	2.18	2.50	2.98	3.45	3.93	4.40	5.35	2921
9	2.10	2.47	2.83	3.38	3.93	4.48	5.03	6.05	2759
9½	2.35	2.75	3.15	3.78	4.40	5.03	5.65	6.75	2613
10	2.48	2.89	3.30	3.97	4.64	5.31	5.98	7.15	2482
10½	2.60	3.03	3.45	4.16	4.87	5.59	6.30	7.55	2365
12	2.70	3.15	3.60	4.39	5.17	5.96	6.75	8.32	2070
14	4.20	4.90	5.60	6.73	7.85	8.98	10.10	12.05	1773
16	5.40	6.20	7.00	8.50	10.00	11.50	13.00	15.25	1552
18	6.30	7.40	8.50	10.38	12.25	14.13	16.00	19.00	1379
20	7.00	8.50	10.00	12.25	14.50	16.75	19.00	22.50	1241
22	9.00	10.50	12.00	14.50	17.00	19.50	22.00	26.50	1129
24	10.00	12.00	14.00	17.00	20.00	23.00	26.00	32.00	1035
26	12.00	13.50	15.00	18.75	22.50	26.25	30.00	37.00	954
30	15.00	18.00	21.00	25.75	30.50	35.25	40.00	50.00	828
36	23.00	26.50	30.00	37.00	44.00	51.00	58.00	71.00	689
48	42.00	48.00	54.00	66.00	78.00	90.00	102.00	126.50	517

Diameter Inches	Thickness, Inches							Revolutions Per Minute
	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	
1½	\$ .55	\$ .60	\$ .65	\$ .75	\$ .90	\$1.00	\$1.15	16554
2	.65	.72	.80	.95	1.15	1.30	1.50	12414
2½	.90	1.02	1.15	1.40	1.65	1.90	2.15	9931
3	1.25	1.37	1.50	1.80	2.15	2.55	2.85	8277
3½	1.65	1.80	1.95	2.45	2.90	3.30	3.75	7094
4	2.00	2.25	2.50	3.05	3.60	4.20	4.75	6207
4½	2.35	2.66	2.98	3.68	4.38	5.10	5.83	5518
5	2.70	3.07	3.45	4.30	5.15	6.00	6.90	4966
5½	3.38	3.81	4.25	5.30	6.35	7.40	8.45	4514
6	4.05	4.55	5.05	6.30	7.55	8.80	10.00	4138
6½	4.40	5.00	5.60	7.05	8.45	9.90	11.25	3820
7	4.90	5.59	6.28	7.85	9.40	11.03	12.60	3547
7½	5.40	6.17	6.95	8.65	10.35	12.15	13.95	3310
8	5.85	6.75	7.65	9.45	11.25	13.25	15.00	3103
8½	6.30	7.20	8.10	10.35	12.15	14.40	16.20	2921
9	7.08	8.06	9.08	11.48	13.63	16.00	18.18	2759
9½	7.85	8.92	10.05	12.60	15.10	17.60	20.15	2613
10	8.33	9.47	10.65	13.38	16.10	18.70	21.33	2482
10½	8.80	10.02	11.25	14.15	17.10	19.80	22.50	2365
12	9.90	11.25	12.60	15.75	18.90	22.00	25.25	2070
14	14.00	15.75	17.50	22.00	26.50	31.00	35.00	1773
16	17.50	19.75	22.00	28.50	33.50	37.00	45.00	1552
18	22.00	25.50	29.00	36.00	43.00	50.00	57.00	1379
20	26.00	30.50	35.00	44.00	52.00	61.00	70.00	1241
22	31.00	36.50	42.00	53.00	63.00	74.00	84.00	1129
24	38.00	44.00	50.00	63.00	75.00	88.00	100.00	1035
26	44.00	51.00	58.00	74.00	89.00	102.00	117.00	954
30	60.00	69.00	78.00	98.00	118.00	138.00	157.00	828
36	84.00	98.00	112.00	140.00	169.00	197.00	225.00	689
48	151.00	176.00	201.00	252.00	304.00	355.00	405.00	517

## Iron Centres For Vulcanite Emery Wheels

Diam. Inches	Thickness, Inches								
	1	1¼	1½	1¾	2	2½	3	3½	4
5	\$2.55	\$2.85	\$3.30						
6	2.70	3.15	3.60	\$4.05	\$4.65	\$5.25	\$5.80	\$6.40	\$7.00
7	3.00	3.45	3.90	4.50	5.10	5.75	6.40	7.00	7.65
8	3.30	3.75	4.35	4.95	5.55	6.20	6.90	7.60	8.30
9	3.75	4.20	4.80	5.40	6.15	6.90	7.70	8.45	9.20
10	4.20	4.80	5.40	6.00	6.75	7.60	8.40	9.25	10.10
11	4.65	5.25	5.85	6.45	7.20	8.10	9.00	9.90	10.80
12	5.10	5.70	6.30	7.05	7.80	8.70	9.70	10.70	11.70
14	6.00	6.75	7.50	8.25	9.00	10.10	11.25	12.40	13.50
15			13.50	14.25	15.00	16.90	18.75	20.60	22.50
16			15.00	15.75	16.50	18.55	20.60	22.70	24.75
18			19.50	20.25	21.00	23.60	26.25	28.90	31.50

## Brass Goods

In ordering Hose Fittings be careful to specify for:

**Couplings.** Whether shank or expansion ring and thread, or send sample to show thread.

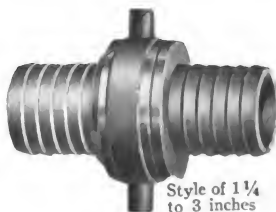
**Nozzles and Play Pipes.** Whether plain or screw tip and thread.

**Nippers and Reducers.** Thread for each end.

### Water Hose Couplings



Style of 1/2, 3/4 and 1 inch



Style of 1 1/2 to 3 inches

Size, Inches	Per Dozen	Size, Inches	Per Dozen
1/2	\$2.40	1 1/2	\$14.00
3/4	2.40	2	30.00
1	4.40	2 1/2	48.00
1 1/4	10.00	3	76.00



### Garden Hose Couplings

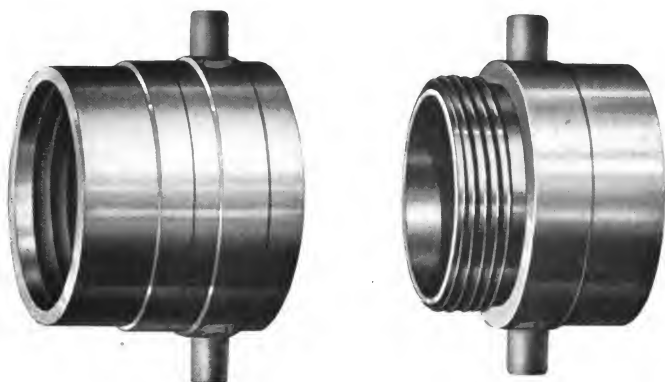
1/2 and 3/4 inch, per dozen . . . \$2.40

### Steam Hose Couplings



Size, Inches	Per Dozen	Size, Inches	Per Dozen
1/2	\$16.00	1 1/2	\$33.00
3/4	16.00	2	42.00
1	18.00	2 1/2	75.00
1 1/4	25.00	3	110.00

We send Iron Pipe Thread unless ordered otherwise.



### Expansion Ring Couplings

Sizes,  $\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ , 2,  $2\frac{1}{2}$ , 3 inches

### Suction Hose Couplings

#### PRICE LIST

Size Inches	Length Shank Inches	Per Set	Size Inches	Length Shank Inches	Per Set
3	$2\frac{7}{8}$	\$7.50	5	$4\frac{1}{2}$	\$20.00
$3\frac{1}{2}$	4	9.50	$5\frac{1}{2}$	$4\frac{1}{2}$	24.00
4	$4\frac{1}{8}$	12.50	6	$4\frac{5}{8}$	28.00
$4\frac{1}{2}$	$4\frac{1}{2}$	16.00			

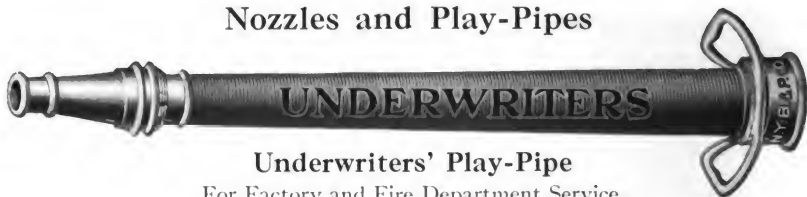
### Suction Hose Nipples

Made of iron pipe finished all over, all corners being chamfered off and hose end scored to give a firm grip to the bands.

#### PRICE LIST

Size Inches	Length Inches	Each Attached	Size Inches	Length Inches	Each Attached
1	6	\$1.00	$4\frac{1}{2}$	12	\$4.20
$1\frac{1}{4}$	6	1.10	5	12	7.40
$1\frac{1}{2}$	6	1.30	6	12	8.50
2	8	1.60	7	12	9.00
$2\frac{1}{2}$	8	2.00	8	12	9.50
3	8	2.50	9	12	11.00
$3\frac{1}{2}$	8	2.90	10	12	13.00
4	12	3.50	12	14	16.50

## Nozzles and Play-Pipes



### Underwriters' Play-Pipe

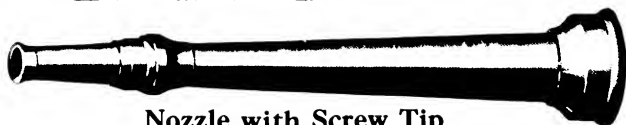
For Factory and Fire Department Service

Metal handles, marline wound and painted. Price each, \$10.00.



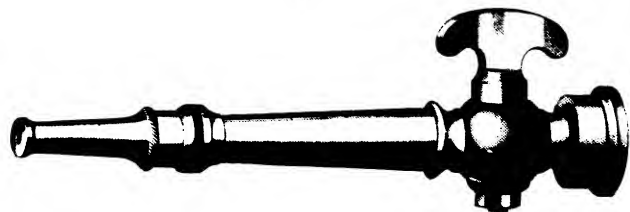
### Plain Nozzle

Size Inches	Length Inches	Outlet Diameter Inches	Per Dozen	Size Inches	Length Inches	Outlet Diameter Inches	Per Dozen
$\frac{3}{4}$	8	$\frac{1}{8}$	\$7.00	2	11	$\frac{5}{8}$	\$30.00
1	9	$\frac{1}{8}$	9.00	$2\frac{1}{2}$	12	$\frac{3}{4}$	48.00
$1\frac{1}{4}$	$10\frac{1}{2}$	$\frac{3}{8}$	15.00	$2\frac{1}{2}$	20	$\frac{3}{4}$	78.00
$1\frac{1}{2}$	$10\frac{1}{2}$	$\frac{1}{2}$	18.00				



### Nozzle with Screw Tip

Size Inches	Length Inches	Outlet Diameter Inches	Per Dozen	Size Inches	Length Inches	Outlet Diameter Inches	Per Dozen
$\frac{3}{4}$	8	$\frac{1}{8}$	\$8.00	2	14	$\frac{5}{8}$	\$39.00
1	10	$\frac{1}{8}$	10.00	$2\frac{1}{2}$	15	$\frac{3}{4}$	75.00
$1\frac{1}{4}$	13	$\frac{3}{8}$	20.00	$2\frac{1}{2}$	20	$\frac{3}{4}$	90.00
$1\frac{1}{2}$	13	$\frac{1}{2}$	25.00				



### Nozzle with Screw Tip and Cock CLE

Size, Inches	Length, Inches	Per Dozen
$\frac{3}{4}$	8	\$13.00
1	8	15.00

We send Hose Thread, unless ordered otherwise.



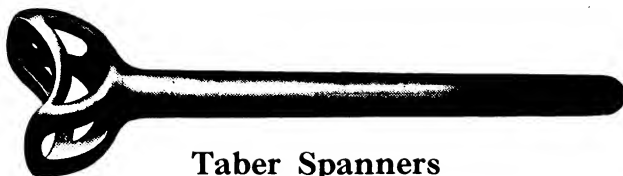
### Gem Nozzles

Price per dozen, \$10.00.

## Hose Sprinklers (Rose)



Size, Inch	Diameter, Inches	Per Dozen
$\frac{3}{4}$	$1\frac{1}{2}$	3.50
$\frac{3}{4}$	2	4.50
1	$1\frac{1}{2}$	3.50
1	2	4.50



## Taber Spanners

Will turn the couplings to right or left without removing Spanner.  
Price per dozen, \$6.00.

## Brass Suction Hose Strainers

Size, Inches	Each	Size, Inches	Each
$1\frac{1}{2}$	\$7.50	4	\$19.00
2	7.50	5	31.00
$2\frac{1}{2}$	8.50	6	46.00
3	10.00		

In ordering state whether Hose or Iron Pipe Thread.

## Iron Strainers

Size Inches	Plain Each	Galvanized Each	Size Inches	Plain Each	Galvanized Each
$\frac{3}{4}$	\$.40		3	\$2.00	\$3.00
1	.40	\$.50	$3\frac{1}{2}$	3.00	4.50
$1\frac{1}{4}$	.50	.75	4	3.75	6.00
$1\frac{1}{2}$	.75	1.00	5	4.75	7.00
2	1.00	1.50	6	6.50	10.00
$2\frac{1}{2}$	1.50	2.00	8	15.00	22.00

Furnished with Iron Pipe Thread only.



## Hose Clamps

### LAWN HOSE CLAMPS

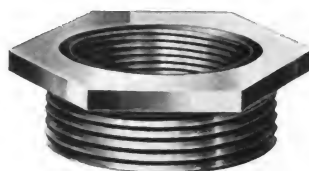
$\frac{1}{2}$  inch,  $\frac{5}{8}$  inch,  $\frac{3}{4}$  inch; 2, 3 and 4-ply.  
Per dozen, 60 cents.

### WATER HOSE CLAMPS

Size, Inches	Ply	Per Dozen	Size, Inches	Ply	Per Dozen
1	2, 3 and 4	\$2.00	$2\frac{1}{4}$	3 and 4	\$6.50
$1\frac{1}{4}$	3 and 4	2.50	$2\frac{1}{2}$	3 and 4	7.00
$1\frac{1}{2}$	3 and 4	3.00	3	3 and 4	10.00
2	3 and 4	4.00			

### STEAM HOSE CLAMPS

Size, Inches	Ply	Per Dozen	Size, Inches	Ply	Per Dozen
$\frac{3}{4}$	3 and 4	\$2.00	2	3 and 4	\$5.50
1	3 and 4	2.50	2	5	6.50
$1\frac{1}{4}$	3 and 4	3.00	$2\frac{1}{2}$	3 and 4	8.50
$1\frac{1}{2}$	3 and 4	3.50	$2\frac{1}{2}$	5	9.50
$1\frac{1}{2}$	5	4.00			



## Hose Reducers and Hose Bushings

Male and Female

Size, Inches	Per Dozen	Size, Inches	Per Dozen
$\frac{3}{4}$ x $\frac{1}{2}$	\$6.50	2 x $1\frac{1}{4}$	\$16.00
1 x $\frac{1}{2}$	6.50	2 x $1\frac{1}{2}$	18.00
1 x $\frac{3}{4}$	6.50	$2\frac{1}{2}$ x $\frac{3}{4}$	20.00
$1\frac{1}{4}$ x $\frac{3}{4}$	8.00	$2\frac{1}{2}$ x 1	22.00
$1\frac{1}{4}$ x 1	10.00	$2\frac{1}{2}$ x $1\frac{1}{4}$	23.00
$1\frac{1}{2}$ x $\frac{3}{4}$	11.50	$2\frac{1}{2}$ x $1\frac{1}{2}$	24.00
$1\frac{1}{2}$ x 1	11.50	$2\frac{1}{2}$ x 2	26.00
$1\frac{1}{2}$ x $1\frac{1}{4}$	12.00	3 x 2	30.00
2 x $\frac{3}{4}$	13.00	3 x $2\frac{1}{2}$	36.00
2 x 1	14.00		

In ordering state Thread wanted on both ends, whether Hose Thread or Iron Pipe Thread.



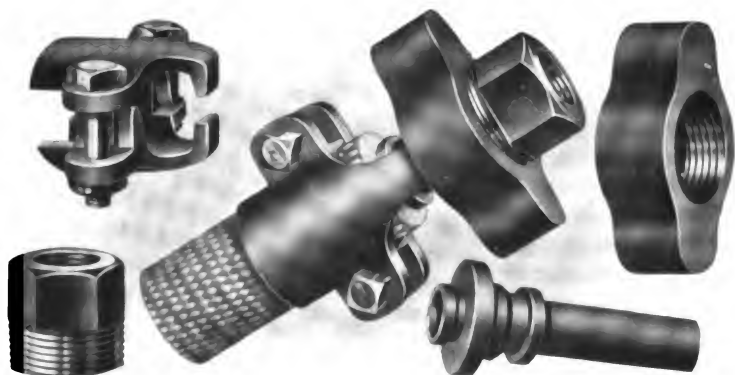
## Hose Nipples

Male both ends

Size, Inches	Per Dozen	Size, Inches	Per Dozen
$\frac{1}{2}$	\$3.50	2	\$14.00
$\frac{3}{4}$	3.50	$2\frac{1}{2}$	28.00
1	5.00	3	40.00
$1\frac{1}{4}$	9.00	$3\frac{1}{2}$	50.00
$1\frac{1}{2}$	10.00	4	75.00

In ordering state Thread wanted on both ends, whether Hose Thread or Iron Pipe Thread.





## Rock Drill Coupling

This Rock Drill Coupling is especially adapted for steam and air drill service, and affects the efficiency of hose less than any other coupling made—1-inch size having an opening of  $\frac{15}{16}$  inch diameter.

It is constructed on mechanical principles, will withstand the severest usage, and is absolutely steam and air tight. The clamps exert an equal pressure their entire circumference, the lugs of same extending over collar on stem, thereby ensuring safety under the highest pressure.

### PRICE LIST

Size, Inches	Price, Each End	Size, Inches	Price, Each End
$\frac{1}{2}$	\$1.20	$1\frac{1}{2}$	\$3.30
$\frac{3}{4}$	2.00	2	5.00
1	2.00	$2\frac{1}{2}$	11.00
$1\frac{1}{4}$	2.90	3	13.00



## Extra Heavy Bolt Clamps

Inside Diameter of Clamp Closed Inches	Plain, per 100	Inside Diameter of Clamp Closed Inches	Plain, per 100
2	\$9.25	$4\frac{5}{8}$	\$42.50
$2\frac{1}{8}$	10.00	$4\frac{3}{4}$	50.00
$2\frac{1}{4}$	10.50	$5\frac{1}{8}$	65.00
$2\frac{3}{8}$	11.25	$5\frac{1}{2}$	80.00
$2\frac{1}{2}$	11.75	$6\frac{1}{8}$	95.00
$2\frac{11}{16}$	12.50	$6\frac{3}{8}$	115.00
$2\frac{13}{16}$	13.75	$7\frac{1}{4}$	135.00
3	15.00	$8\frac{7}{8}$	185.00
$3\frac{3}{16}$	17.50	$9\frac{3}{8}$	250.00
$3\frac{3}{8}$	20.00	$10\frac{7}{8}$	285.00
$3\frac{3}{4}$	37.50	12	350.00
$4\frac{1}{16}$	42.50		



"Cooper"



"Jones"

## Hose Menders

"Cooper"—Made of solid brass, with concave teeth, precluding possibility of pulling out when once inserted.

Price per dozen, \$1.20.

"Jones"—A plain iron mender to be attached by wire or bands.

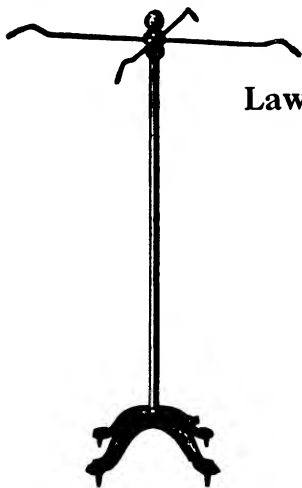
Price per dozen, \$1.00.

## Caldwell Hose Bands

Of soft brass; very convenient for quick repair work. Price per gross \$2.00

## Caldwell Pliers

A handy tool to have in attaching Caldwell Bands. Price per dozen, \$1.80

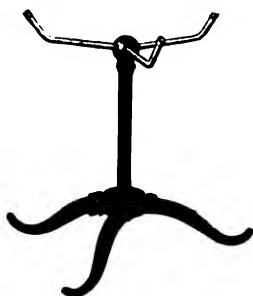


## Lawn Sprinklers

### Four-arm Sprinkler

For large lawns, 48 inches high and will spray an area of 50 feet.

Price each, \$6.50.



### Sunshine Sprinklers

A very attractive lawn sprinkler, 13 inches high and distributing over an area of 25 feet.

Brass Arms, per dozen \$16.00.

Nickel-plated Arms, per dozen \$17.00.



### Ring Sprinklers

A simple sprinkler with no bearings to get out of order. Made of very heavy brass, 8 inches diameter 1¼ inches high.

Price per dozen, \$7.00.

## Hose Reels

Space will permit of listing only a few of the smaller hose reels suitable for lawn hose and light mill hose, but we issue a special catalogue on Hose Reels and Carts, which we will be glad to mail on request with quotations.



### No. 1

A plain wood reel for 50 feet of  $\frac{3}{4}$ -inch hose.

Price per dozen, \$12.00.

### No. 2

Same style reel as No. 1, but better and more solidly constructed and painted red.

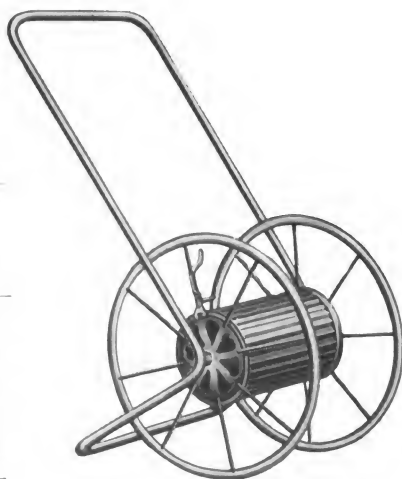
Price per dozen, \$18.00.

No. 1 and No. 2

## All Iron Hose Reels

### Style B

No.	Capacity $\frac{3}{4}$ -inch Hose Feet	Capacity. 2-inch Cotton Rubber-lined Fire Hose Feet	List Price
10	100	...	\$3.50
20	150	...	4.00
30	400	100	6.50
35	600	200	12.00
40	800	300	25.00



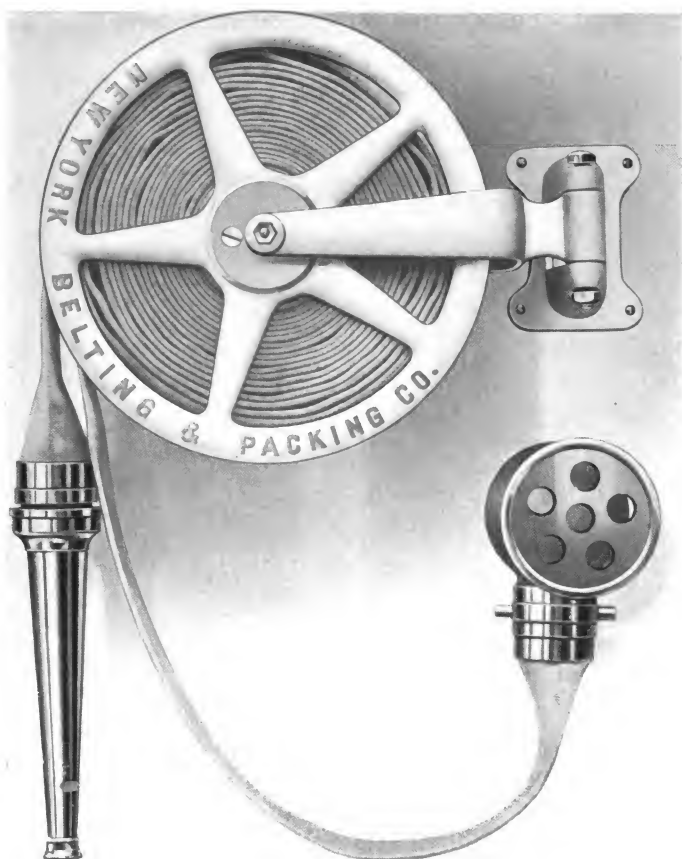


## Colonial Swinging Hose Rack

Regular finish, Aluminum Bronze. Special finishes to order

### PRICE LIST

No. 1, for 25 or 50 feet of 1½-inch Linen Hose, with Wall Plate.....	\$4.00
No. 2, for 25 or 50 feet of 2-inch Linen Hose, with Wall Plate.....	4.00
No. 3, for 25 or 50 feet of 2½-inch Linen Hose, with Wall Plate.....	4.00
No. 4, for 75 feet of 1½-inch Linen Hose, with Wall Plate.....	4.50
No. 5, for 75 feet of 2-inch Linen Hose, with Wall Plate.....	4.50
No. 6, for 75 feet of 2½-inch Linen Hose, with Wall Plate.....	4.50
No. 7, for 100 feet of 1½-inch Linen Hose, with Wall Plate.....	5.00
No. 8, for 100 feet of 2-inch Linen Hose, with Wall Plate.....	5.00
No. 9, for 100 feet of 2½-inch Linen Hose, with Wall Plate.....	5.00
No. 10, for 50 feet of 1½-inch Cotton Hose, with Wall Plate.....	6.00
No. 11, for 50 feet of 2-inch Cotton Hose, with Wall Plate.....	6.00
No. 12, for 50 feet of 2½-inch Cotton Hose, with Wall Plate.....	6.00
Pipe Clamps, Set, extra.....	.40



## Star Swinging Hose Reel

Regular finish, Aluminum Bronze. Special finishes to order

### PRICE LIST

No. 1, for 25 or 50 feet of 1½-inch Linen Hose, with Wall Plate.....	\$4.00
No. 2, for 25 or 50 feet of 2-inch Linen Hose, with Wall Plate.....	4.00
No. 3, for 25 or 50 feet of 2½-inch Linen Hose, with Wall Plate.....	4.00
No. 4, for 75 feet of 1½-inch Linen Hose, with Wall Plate.....	4.50
No. 5, for 75 feet of 2-inch Linen Hose, with Wall Plate.....	4.50
No. 6, for 75 feet of 2½-inch Linen Hose, with Wall Plate.....	4.50
No. 7, for 100 feet of 1½-inch Linen Hose, with Wall Plate.....	5.00
No. 8, for 100 feet of 2-inch Linen Hose, with Wall Plate.....	5.00
No. 9, for 100 feet of 2½-inch Linen Hose, with Wall Plate.....	5.00
No. 10, for 50 feet of 1½-inch Cotton Hose, with Wall Plate.....	6.00
No. 11, for 50 feet of 2-inch Cotton Hose, with Wall Plate.....	6.00
No. 12, for 50 feet of 2½-inch Cotton Hose, with Wall Plate.....	6.00
Pipe Clamps, Set, extra.....	.40

## Telegraph and Cable Code

### Shipments

<b>Nail</b> .....	Ship by freight.
<b>Nabob</b> .....	Ship by express.
<b>Negro</b> .....	Ship by steamer.
<b>Nose</b> .....	When can you ship our order
<b>Nelson</b> .....	Wire how soon you can ship
<b>Noble</b> .....	If receive order today can ship
<b>Noggin</b> .....	Goods ordered not in stock. Can make and ship .. days. Answer.
<b>Noise</b> .....	Will ship order complete in .. days.
<b>Nomad</b> .....	Will make partial shipment by
<b>Nomadic</b> ....	If possible express today. Otherwise hold and wire when.
<b>Nominal</b> ....	Express as soon as possible and wire when.
<b>Nominate</b> ...	Duplicate our order
<b>Nominee</b> ....	If order .. not shipped send by express.
<b>Noodle</b> .....	Order (No. ..) (of ..) not received; wire when and trace.
<b>Noonday</b> ....	Hold for further instructions our order
<b>Noontide</b> ....	Express sample of

### Prices—Quotations

<b>Notion</b> .....	Wire how soon and at what price you can ship.
<b>Notional</b> ....	Mail price and state how soon you can ship.
<b>Notionate</b> ...	Wire lowest price on
<b>Notionist</b> ...	Lowest price we can quote you on .. is

### Belting

#### Rubber

<b>Ajax</b> .....	Great Seal.
<b>Alden</b> .....	Test Special.
<b>Anchor</b> .....	1846 Para.
<b>Andy</b> .....	Double Diamond.
<b>Angel</b> .....	Dragon.
<b>Angelic</b> ....	Carbon.
<b>Angry</b> .....	Vulcan.
<b>Anguish</b> ....	Dundee.
<b>Angular</b> ....	Czar.
<b>Animal</b> .....	Czar Special.
<b>Ankle</b> .....	Special Seamless Stitched.
<b>Anneal</b> .....	Regular Stitched.
<b>Annex</b> .....	Gold Dredge
<b>Anode</b> .....	1856.
<b>Anoint</b> .....	1890.
<b>Anon</b> .....	1849.
<b>Ant</b> .....	1912.

#### Rubber (Cont'd)

<b>Antelope</b> ....	3738.
<b>Anthem</b> ....	9193.
<b>Antler</b> .....	7375.
<b>Apace</b> .....	Elevator.
<b>Apert</b> .....	Conveyor.
<b>Apex</b> .....	Vanner, new style high flange, smooth.
<b>Apish</b> .....	Vanner, new style, low flange, smooth.
<b>Aplomb</b> .....	Vanner, new style, high flange, corrugated.
<b>Aporia</b> .....	Vanner, new style, low flange, corrugated.
<b>Apple</b> .....	Band Saw Bands.

#### Canvas Stitched

<b>Avant</b> .....	Baldric.
<b>Avarice</b> .....	Signet.

## Telegraph and Cable Code

### Belting (Cont'd)

#### Leather

**Awful**..... Extra Test.  
**Awry**..... Test.  
**Axle**..... Dragon.

#### Lace Leather

**Aztecs**..... Sides.  
**Azure**..... Cut.

#### Hose

##### Water

**Habit**..... Indestructible.  
**Hack**..... 1846 Para.  
**Hacking**.... Double Diamond.  
**Haddock**.... Magic.  
**Haggard**.... Jubilee.  
**Halberd**.... Delta.  
**Halcyon**.... Carbon.  
**Halibut**.... Spider.  
**Hamlet**.... Korona.  
**Handful**.... Puritan.  
**Handily**.... Red Oxford.  
**Handling**.... White Oxford.  
**Handsome**... Multiplex.  
**Hapless**.... Comet.  
**Harass**.... Sterling.  
**Hardbake**... Willow.  
**Hardily**.... Saco.  
**Harem**..... Tuxedo.  
**Harmful**.... Clifton.  
**Harmless**... Garden City.  
**Harmonize**... X L.  
**Harpoon**.... Vulcan.

##### Steam

**Healing**.... Indestructible.  
**Heap**..... 1846 Para.  
**Hearken**.... Double Diamond.  
**Heathen**.... Dragon.  
**Heavily**.... Carbon.  
**Hebetate**.... Vulcan.

### Hose (Cont'd)

#### Brewers

**Hiccup**..... Indestructible.  
**Hideous**.... 1846 Para.  
**Hillock**.... Double Diamond.  
**Hindmost**... Carbon.  
**History**.... Special.

#### Air Drill

**Hoary**..... Indestructible.  
**Hobnail**.... 1846 Para.  
**Hodman**.... Double Diamond.  
**Hoefull**.... Carbon.  
**Holdfast**.... Magic.  
**Hollow**.... Magic Extra Heavy.

#### Pneumatic Tool

**Honied**..... Indestructible.  
**Honored**.... Magic.  
**Hood**..... Double Diamond.  
**Hoodless**.... Multiplex.  
**Hookah**.... Sterling.

#### Armouring for Hose

**Hopbind**.... Round wire wound.  
**Hopeful**.... Half round wire wound.  
**Hopeless**.... Flat wire wound.  
**Hopper**.... Flat wire braid.  
**Hopscotch**... Round wire braid.  
**Hoptoad**.... Marline wound.  
**Hopwell**.... Woven Cotton Jacket,  
                     Plain.  
**Hopvine**.... Woven Cotton Jacket,  
                     Painted.  
**Hoppole**.... Woven Marline Jacket.

#### Suction

**Horde**..... 1846 Para, S. B.  
**Horizon**.... 1846 Para, W. L.  
**Hornbill**.... Double Diamond, S. B.  
**Hornbug**.... Double Diamond, W. L.  
**Hornet**..... Carbon, S. B.  
**Hornless**.... Carbon, W. L.  
**Hornpipe**,... Edson, W. L.

## Telegraph and Cable Code

### Hose

#### Suction (Cont'd)

<b>Horoscope</b> ...	"C," W. L.
<b>Horrible</b> ....	Double Diamond, S. B. Oil Suction.
<b>Horrific</b> ....	Double Diamond, W. L. Oil Suction.
<b>Horseback</b> ...	Carbon, S. B., Oil Suction.
<b>Horseshoe</b> ...	Carbon, W. L., Oil Suction.
<b>Hosier</b> .....	Carbon, Unloading.
<b>Hoskill</b> .....	Carbon Portable, S. B., Suction
<b>Hostage</b> .....	Dundee Portable, S. B., Suction.
<b>Hostelry</b> ....	Dundee Portable, W. L., Suction.
<b>Hostess</b> .....	Hard Rubber, Suction.
<b>Hostility</b> ....	Brass, W. L., Suction.

### Special

<b>Hotbed</b> .....	Vacuum Cleaner, Regular.
<b>Hothouse</b> ...	Vacuum Cleaner, No. 15882.
<b>Hotly</b> .....	Vacuum Cleaner, No. 24.
<b>Hot Press</b> ...	Chemical Engine.
<b>Hottentot</b> ...	Magic Chemical Engine.
<b>Hottest</b> .....	Acid.
<b>Hotyen</b> .....	Gas.
<b>Houdah</b> ....	Spray Pump.
<b>Hough</b> .....	Coke.
<b>Hound</b> .....	Magic Coke.
<b>Housage</b> ....	Auto Radiator.
<b>Household</b> ...	Sand Blast.
<b>Househall</b> ...	Double Diamond Oil.
<b>Houseboat</b> ...	Carbon Oil.

### Hose (Cont'd)

#### Fire

<b>Hum</b> .....	Test Rubber.
<b>Human</b> .....	Delta Rubber.
<b>Humane</b> ....	Dragon Double Jacket.
<b>Humanist</b> ...	Lenox Double Jacket.
<b>Humanity</b> ...	Aetna Double Jacket.
<b>Humanize</b> ...	Vulcan Double Jacket.
<b>Humankind</b> ...	Delta Single Jacket.
<b>Humankind</b> ...	Vulcan Single Jacket.
<b>Humanly</b> ....	Cable Single Jacket.
<b>Humation</b> ...	Czar Single Jacket.

#### Cotton Rubber-lined Mill

<b>Humor</b> .....	Afmic Underwriters.
<b>Humoral</b> ....	Double Diamond.
<b>Humorist</b> ...	Carbon.

#### Linen, Unlined

<b>Hurl</b> .....	Afmic Underwriters.
<b>Hurler</b> .....	Delta Underwriters
<b>Hurling</b> .....	Spider.

#### For Railroad Service

<b>Hyacinth</b> ...	Air Brake.
<b>Hyades</b> .....	Air Signal.
<b>Hyalite</b> .....	R. R. S. Tender.
<b>Hybrid</b> .....	Indestructible Steam and Hot Water Wash- out.
<b>Hydage</b> .....	Indestructible Hot Water Washout.
<b>Hydatid</b> ....	Vacuum Brake.
<b>Hydrant</b> ....	Car Heating.

#### Sleeves for Dredging

<b>Hydrolite</b> ...	1846 Para.
<b>Hydromel</b> ...	Double Diamond.

## Packings

### Piston

<b>Pacing</b> .....	Double Diamond, Oval Gum Core, Style 106.
<b>Pacify</b> .....	Carbon, Oval Gum Core, Style 107.
<b>Packman</b> ...	Graphon, Spiral, Style 1.
<b>Paddle</b> .....	Graphon, Plain Ring, Style 101.



## Telegraph and Cable Code

### Packings—Piston (Cont'd)

<b>Paddock</b> .....	Graphon, Sectional Ring, Style 201.
<b>Padellion</b> .....	Crocoite, Spiral, Style 110.
<b>Pagan</b> .....	Crocoite, Ring, Style 210.
<b>Page</b> .....	Magic Diagonal Expansion, Spiral, Style 5.
<b>Paginal</b> .....	Magic Diagonal Expansion, Ring, Style 105.
<b>Pagoda</b> .....	Cobbs, Spiral, Style 2.
<b>Pagurian</b> ....	Cobbs, Round Ring, Style 102.
<b>Paguriel</b> .....	Cobbs, Square Ring, Style 203.
<b>Painful</b> .....	Vulcan High Pressure, Spiral, Style 112.
<b>Painim</b> .....	Vulcan High Pressure, Ring, Style 212.
<b>Painless</b> ....	Elastic Expansion Ring, Style 213.
<b>Painter</b> .....	Magic Diagonal High Pressure, Spiral, Style 118.
<b>Pairing</b> .....	Magic Diagonal High Pressure, Ring, Style 218.
<b>Palace</b> .....	B. & P. Asbestos, Spiral, Style 1003.
<b>Paladin</b> .....	B. & P. Asbestos, Coil, Style 1002.
<b>Palanquin</b> ...	B. & P. Asbestos, Ring, Style 1202.
<b>Palatial</b> .....	Turxo Twist, Style 251.
<b>Palaver</b> .....	Turxo Braid, Style 252.
<b>Paleface</b> ....	Turxotine Braid, Style 253.
<b>Paleness</b> ....	Waterproof Hydraulic, Spiral, Style 114.
<b>Palette</b> .....	Waterproof Hydraulic, Ring, Style 214.
<b>Palings</b> .....	Para Flax, Style 52.
<b>Palinode</b> ....	Double Diamond Flax, Style 9.
<b>Palisade</b> ....	Carbon Flax, Style 53.
<b>Palliate</b> .....	Double Diamond Hot Water, Spiral, Style 115.
<b>Pallidity</b> ....	Special Hydraulic Rings, Style 250.
<b>Palmary</b> ....	Double Diamond, Square, White, Friction, Style 4.
<b>Palpable</b> ....	Double Diamond, Square, Black, Friction, Style 8.
<b>Palpitate</b> ....	Spider, Square, Black, Friction, Style 40.
<b>Palsical</b> ....	Square, Rubber Back, Style 41.
<b>Palterer</b> ....	Round Tucks, Style 42.
<b>Paltry</b> .....	Cobbs Throttle, Style 1820.
<b>Paludal</b> ....	B. & P. Throttle, Style 1821.
<b>Pamper</b> .....	Throttle, Style 1822.
<b>Panacea</b> ....	Throttle, Style 1823.
<b>Panado</b> .....	Throttle, Style 1824.
<b>Pancake</b> ....	Throttle, Style 1825.
<b>Pancreas</b> ....	Throttle, Style 1826.
<b>Pangolin</b> ....	Cobbs Air Pump, Style 1830.
<b>Pannade</b> ....	B. & P. Air Pump, Style 1831.
<b>Pannier</b> ....	Air Pump, Style 1832.
<b>Panoply</b> ....	Air Pump, Style 1833.
<b>Pansage</b> ....	Air Pump, Style 1834.
<b>Pantheon</b> ....	Air Pump, Style 1835.
<b>Pantile</b> .....	Air Pump, Style 1836.

## Telegraph and Cable Code

### Packings (Cont'd)—Sheet, Strip and Coil

<b>Peacock</b> .....	Cloth Inserted, Double Diamond, Style 33.
<b>Peahen</b> .....	Cloth Inserted, Carbon, Style 34.
<b>Peakish</b> .....	Cloth Inserted, Spider, Style 14.
<b>Peal</b> .....	Cloth Inserted, Diaphragm, Style 35.
<b>Pealing</b> .....	Wire Insertion, Style 36.
<b>Peamint</b> .....	Indestructible White Sheet, Style 10.
<b>Peasant</b> .....	Indestructible White Sheet, with brass wire insertion, Style 29.
<b>Pebble</b> .....	Indestructible White Sheet, with iron wire insertion, Style 30.
<b>Pectoral</b> .....	Ruby Red Sheet, Style 11.
<b>Peculate</b> .....	Ruby Red Sheet, with brass wire insertion, Style 31.
<b>Peculiar</b> .....	Special Red Sheet, Style 18.
<b>Pedagogue</b> .....	Salamanda, Style 13.
<b>Pedal</b> .....	Salamanda, with iron wire insertion, Style 32.
<b>Pedantic</b> .....	Asbestos Metallic, Style 410.
<b>Pedestal</b> .....	Asbestos Automobile, Style 411.
<b>Pedigree</b> .....	Firo Superheat, Style 1846.
<b>Peerage</b> .....	Double Diamond, Pure Sheet.
<b>Peeress</b> .....	Carbon Pure Sheet.
<b>Peg</b> .....	Double Diamond, Pure Square Strip.
<b>Pegging</b> .....	Carbon, Pure Square Strip.
<b>Pegleg</b> .....	Double Diamond, Pure Round Cord.
<b>Pegless</b> .....	Carbon, Pure Round Cord.

### Gaskets

<b>Idiom</b> .....	Double Diamond C. I., Style 16.
<b>Idler</b> .....	Spider C. I., Style 37.
<b>Idolize</b> .....	Czar C. I., Style 38.
<b>Idyllic</b> .....	Flat Rubber, Indestruc- tible, Style 39.
<b>Ignite</b> .....	Flat Rubber, Ruby, Style 39.
<b>Ignition</b> .....	Flat Rubber, Karbonite, Style 39.
<b>Ignore</b> .....	B. & P. High Pressure, Style 260.
<b>Illness</b> .....	B. & P. Heine, Style 261.
<b>Illude</b> .....	Ruby Sectional, Style 15.

### Diaphragms

<b>Jabuco</b> .....	Edson Pump.
<b>Jacara</b> .....	Loud Pump.
<b>Jacinth</b> .....	High Pressure Damper.
<b>Jacinto</b> .....	Low Pressure Damper.
<b>Jackal</b> .....	Vacuum Brake.

### Pump Valves and Valve Disks

<b>Vagary</b> .....	Double Diamond.
<b>Valance</b> .....	Carbon.
<b>Valentine</b> .....	Czar.
<b>Valley</b> .....	Valve Disks, Style 20.
<b>Valorous</b> .....	Valve Disks, Style 21.
<b>Vampire</b> .....	Ball Valves.

### Mats and Matting

<b>Babe</b> .....	Perforated Mats, Style R.
<b>Baboso</b> .....	Perforated Mats, Style Q.
<b>Baboon</b> .....	Perforated Mats, Style T.
<b>Babyism</b> .....	Perforated Mats, Style P.
<b>Babysite</b> .....	With canvas back.
<b>Babyhood</b> .....	Nahma Diamond Cell Mats.
<b>Backbite</b> .....	Barber Chair, Mats Per- forated.

## Telegraph and Cable Code

### Mats and Matting (Cont'd)

**Backbone**.... Barber Chair Mats, Corrugated.  
**Backslide**.... Barber Chair Mats, Pyramid.  
**Backward**.... Revolving Door Mat.  
**Baffler**..... Trunk Mat.  
**Bagman**..... Diamond Cell Mat.  
**Bagpipe**..... Puritan Mat.  
**Bait**..... Embossed Mats, Style A.  
**Baiting**..... Embossed Mats, Style B.  
**Baitless**..... Embossed Mats, Style C.  
**Balcony**..... Nybnoh Mats.  
**Ballad**..... Molded Stair Treads, Double Diamond.  
**Balloon**..... Molded Stair Treads, Spider.  
**Banner**..... Cut Stair Treads, Double Diamond.  
**Bannock**..... Cut Stair Treads, Spider.  
**Banter**..... Billiard Table Mat, Molded.  
**Bantam**..... Billiard Table Mat, Cut.  
**Barbated**.... Running Board Matting.  
**Barbecue**.... Car Step Treads.  
**Barnacle**.... Bath Tub Mats.  
**Barnard**.... Shower Bath Mats.  
**Baron**..... Drain Board Mats, Perforated.  
**Baronet**.... Drain Board Mats, Corrugated.  
**Basalt**..... Pedal Mats.  
**Bascule**.... Pitcher Mats.  
**Baseness**.... Coin Mats, Red.  
**Bashful**.... Coin Mats, Black.  
**Basinet**.... Cuspidor Mats.  
**Basket**..... Corrugated Matting, Double Diamond.  
**Basking**.... Corrugated Matting, Spider.  
**Bastard**.... Pyramid Matting.  
**Bastion**.... Knob Matting.  
**Batable**.... Hemisphere Matting.  
**Batful**..... Nybnoh Matting.  
**Bathing**.... Delta Matting.

### Mats and Matting (Cont'd)

**Beacon**..... Brass Nosings.  
**Beaker**..... Rubber Nosings.  
**Beaming**.... Zinc Nosings.  
**Beamless**.... Galvanized Iron Nosings.  
**Bearable**.... Rubber Binding.

### Tubing

**Tablet**..... Hand-made, White, Double Diamond.  
**Tabor**..... Hand-made, Black, Double Diamond.  
**Tacitly**..... Machine-made, White, Corrugated.  
**Tacker**..... Machine-made, White, Smooth.  
**Tactical**.... Bottling, Hand-made.  
**Tadpole**.... Bottling, Machine-made.  
**Taffeta**..... Piano Player.  
**Tagrag**..... Acetylene.  
**Tagtail**.... Syrup.  
**Tailor**..... Sap.  
**Talented**.... Glass Blowers.  
**Talisman**.... Sand Blast.  
**Talker**..... Baby Carriage.

### Small Hose

**Talmud**.... Red Cloth Insertion.  
**Tamarind**.... White Cloth Insertion, Double Diamond.  
**Tamarisk**.... White Cloth Insertion, Carbon.  
**Tandem**.... Braided High Pressure.  
**Tangent**.... Automobile Pump.  
**Tangible**.... Bicycle Pump.  
**Tangle**.... Fire Extinguisher.  
**Tanker**.... Soda Water.

### Specialties

**Wabble**.... Bradley Hammer Cushions, Upper  
**Wadded**.... Bradley Hammer Cushions, Lower.  
**Wadhook**.... Bradley Hammer Cushions, 25 pounds.  
**Wadsett**.... Bradley Hammer Cushions, 40 pounds.

## Telegraph and Cable Code

### Specialties (Cont'd)

**Wafting**.....Bradley Hammer  
Cushions, 60 pounds.  
**Wagging**.....Bradley Hammer  
Cushions, 80 pounds.  
**Waggish**.....Bradley Hammer  
Cushions, 100 pounds.  
**Wailing**.....Brewers Wheels.  
**Wainrope**....Bibb Washers.  
**Waken**.....Billiard Cushions,  
Style C.  
**Waldig**.....Billiard Cushions,  
Style E.  
**Walker**.....Billiard Cushions,  
Style F.  
**Wallet**.....Billiard Cushions,  
Style S.  
**Wallow**.....Billiard Cushions,  
Style Spl.  
**Walnut**.....Billiard Cushions,  
Style P.  
**Wamble**....Bumpers, Screw.  
**Wantless**....Bumpers, Tack.  
**Wantonly**....Chair and Crutch Tips.  
**Warble**.....Coupling Packing Rings.  
**Warden**.....Cylinder Springs.  
**Wardrobe**....Fuller Faucet Balls.  
**Warren**.....Gauge Glass Washers,  
Square Flange.  
**Warrior**.....Gauge Glass Washers,  
Round Flange.  
**Wartless**....Gauge Glass Washers,  
Cloth Insertion.  
**Wasting**....Glaziers Packing.  
**Waterhen**....Old Style Press Bag.  
**Waterman**...Old Style Press Bag  
Protector.  
**Watermill**...New Style Press Bag.  
**Waterpail**...New Style Press Bag  
Protector.  
**Waterpipe**...Curling Bag.  
**Waterpot**...Curling Bag Protector.  
**Watershed**...Hatters' Apron Cloth.  
**Waxend**.....Horse Medicine Bottles.  
**Waylay**.....Hose Washers.  
**Waymark**....Mallets.

### Specialties (Cont'd)

**Wayside**.....Oil Well Packers.  
**Wayward**....Oil Well Rings.  
**Weakness**....Rolls, Rubber-covered.  
**Weapon**.....Screen Diaphragms.  
**Weaponless**..Screen Gaskets.  
**Wearer**.....Sheave Packing.  
**Weasel**.....Swab Rubbers.  
**Wedlock**....Stoppers, Chemical.  
**Weftage**.....Stoppers, New Style.  
**Weevil**.....Stoppers, Old Style.  
**Weird**.....Stoppers, No-Air.  
**Welded**.....Truck Wheel Tires.  
**Vitriol**.....Vulcanite Emery Wheels.

## Couplings

**Uberous**....Garden Hose.  
**Ubication**...Water Hose.  
**Ugliness**....Suction Hose.  
**Ulcerate**....Steam Hose.  
**Ulterior**.....Expansion Ring.  
**Ultimity**....Rock Drill.  
**Ultraist**.....Suction Hose Nipples.

## Pipes and Fittings

**Unaccorded**..Underwriters'.  
**Unadored**....Plain Brass.  
**Unallayed**....Gem.  
**Unrapt**.....Screw Tip.  
**Unbar**.....C L E  
**Unbind**.....Extra Heavy Bolt  
Clamps.  
**Unbolted**....Water Hose Clamps.  
**Unboned**....Steam Hose Clamps.  
**Unburnt**....Hose Reducer.  
**Unbosom**....Hose Bushings.  
**Unbridle**....Hose Nipples.  
**Unchain**.....Cooper Menders.  
**Uncivil**.....Jones Menders.

## Hose Reels and Racks

**Yager**.....Iron Hose Reels.  
**Yankee**.....Wood Hose Reels.  
**Yarrow**.....Star Hose Reels.  
**Yearn**.....Colonial Hose Racks.

## Telegraph and Cable Code

## Spanners

Uncreate.....Taber.

## Suction Hose Strainers

Underhand...Brass.

Underhill....Iron.

## Sprinklers

Unclasp.....Sunshine.

Unclean.....4-Arm.

Uncoil.....Rose.

Uncouth.....Ring.

## Numbers

Sable.....00	Sadiron.....5	Salient.....16
Sabotier.....0	Sadly.....5½	Salify.....17
Sabrenas.....1	Sadness.....6	Saline.....18
Sachel.....1½	Saffron.....6½	Salmon.....19
Sackage.....2	Sagacity.....7	Saloon.....20
Sackbut.....2¼	Sagamore.....8	Saltbox.....21
Sacking.....2½	Sagely.....9	Saltish.....30
Sacrate.....2¾	Sagging.....10	Saltmine.....35
Sacredly.....3	Saginate.....11	Saluter.....40
Sacrifice—Special...3	Sainted.....12	Salve.....111
Sacrilege.....3½	Saintlike.....13	Samlet.....6937
Sadden.....4	Salad.....14	Sampler.....6191
Saddler.....4½	Salary.....15	Sanable.....5624

## Telegraph and Cable Code

**Following words denote number of feet when applied to  
Belting, Hose, Tubing or Matting; number of pounds  
when applied to Packing, Springs, etc.**

Cabby.....	½	Chippewa.....	21	Dora.....	58
Cable.....	1	Clifford.....	21½	Dorset.....	59
Cabman.....	1½	Clifton.....	22	Dover.....	60
Cadiz.....	2	Clio.....	22½	Downing.....	61
Cadence.....	2½	Clyde.....	23	Dresden.....	62
Cairo.....	3	Coal.....	23½	Dublin.....	63
Caissons.....	3½	Collamer.....	24	Dunbar.....	64
Calcutta.....	4	Colony.....	24½	Dunkirk.....	65
Calcine.....	4½	College.....	25	Eagle.....	66
Calumet.....	5	Collins.....	26	Earl.....	67
Calumny.....	5½	Colton.....	27	Easton.....	68
Calvary.....	6	Concord.....	28	Eastwood.....	69
Calvert.....	6½	Congress.....	29	Eastern.....	70
Camba.....	7	Conover.....	30	Eden.....	71
Cambist.....	7½	Constant.....	31	Edgerton.....	72
Cambridge.....	8	Cook.....	32	Elba.....	73
Cambrillon.....	8½	Cora.....	33	Elbow.....	74
Camden.....	9	Corinth.....	34	Elkhorn.....	75
Camelot.....	9½	Cortlandt.....	35	Elmira.....	76
Cameron.....	10	Corwin.....	36	Elmwood.....	77
Canfield.....	10½	Covington.....	37	Elyria.....	78
Canton.....	11	Crandall.....	38	Emerald.....	79
Carlisle.....	11½	Crawford.....	39	Etna.....	80
Carmel.....	12	Crayon.....	40	Euclid.....	81
Carroll.....	12½	Croton.....	41	Eureka.....	82
Carson.....	13	Cuba.....	42	Fairfax.....	83
Carthage.....	13½	Custar.....	43	Farmer.....	84
Cary.....	14	Cuyahoga.....	44	Fayette.....	85
Cascade.....	14½	Dalton.....	45	Federal.....	86
Catawba.....	15	Damascus.....	46	Fidelity.....	87
Cecil.....	15½	Danburg.....	47	Findlay.....	88
Centre.....	16	Darke.....	48	Fleming.....	89
Champion.....	16½	Dayton.....	49	Fletcher.....	90
Chapel.....	17	Decatur.....	50	Flint.....	91
Chapman.....	17½	Defiance.....	51	Florence.....	92
Chardon.....	18	Delphi.....	52	Florida.....	93
Chase.....	18½	Delphos.....	53	Forest.....	94
Chatham.....	19	Delta.....	54	Fort.....	95
Cheshire.....	19½	Denmark.....	55	Foster.....	96
Chester.....	20	Deshler.....	56	Fostoria.....	97
Chili.....	20½	Dixon.....	57	Fowler.....	98

## Telegraph and Cable Code

Frank.....	99	Genoa.....	400	Hannibal.....	2500
Frankfort.....	100	German.....	450	Harbor.....	3000
Franklin.....	110	Gilbert.....	500	Harlem.....	3500
Fredonia.....	120	Gilmore.....	550	Harmony.....	4000
Fredonate.....	125	Girard.....	600	Harris.....	4500
Freedom.....	130	Glasgow.....	650	Hartford.....	5000
Freeport.....	140	Gordon.....	700	Harvey.....	10000
Fremont.....	150	Goshen.....	750	Hastate.....	12000
Frost.....	175	Grafton.....	800	Halable.....	15000
Galena.....	200	Granger.....	850	Hatching.....	25000
Galion.....	225	Grove.....	900	Hateful.....	50000
Gamber.....	250	Gustavus.....	1000	Haughly.....	75000
Garden.....	275	Gypsum.....	1250	Hayfield.....	100000
Garfield.....	300	Hampden.....	1500		
Geneva.....	350	Hamilton.....	2000		

## Denote sizes in inches and parts of an inch

Kansas.....	$\frac{1}{64}$	Kirtland.....	$1\frac{1}{16}$	Liberty.....	$3\frac{5}{8}$
Keene.....	$\frac{1}{32}$	Knox.....	$1\frac{1}{8}$	Licking.....	$3\frac{3}{4}$
Keefer.....	$\frac{3}{64}$	Knoxville.....	$1\frac{3}{16}$	Lima.....	$3\frac{7}{8}$
Kelley.....	$\frac{1}{16}$	Kossuth.....	$1\frac{1}{4}$	Lindale.....	4
Kellis.....	$\frac{5}{64}$	Lake.....	$1\frac{15}{16}$	Linden.....	$4\frac{1}{4}$
Kellogg.....	$\frac{3}{32}$	Lakeville.....	$1\frac{1}{8}$	Lindwood.....	$4\frac{1}{2}$
Kelmis.....	$\frac{7}{64}$	Lamyra.....	$1\frac{7}{16}$	Litchfield.....	$4\frac{3}{4}$
Kennard.....	$\frac{1}{8}$	Lancaster.....	$1\frac{1}{2}$	Little.....	5
Kennebec.....	$\frac{9}{64}$	Landeck.....	$1\frac{9}{16}$	Liverpool.....	$5\frac{1}{4}$
Kennebunk.....	$\frac{5}{32}$	Laport.....	$1\frac{5}{8}$	Lock.....	$5\frac{1}{2}$
Kennell.....	$1\frac{11}{64}$	Larue.....	$1\frac{11}{16}$	Lockland.....	$5\frac{3}{4}$
Kensington.....	$\frac{3}{16}$	Latham.....	$1\frac{3}{4}$	Lockport.....	6
Kennet.....	$1\frac{13}{64}$	Latent.....	$1\frac{13}{16}$	Locust.....	$6\frac{1}{2}$
Kenswell.....	$\frac{7}{32}$	Layman.....	$1\frac{7}{8}$	Lodi.....	7
Kensworth.....	$1\frac{15}{64}$	Lebanon.....	$1\frac{15}{16}$	Logan.....	$7\frac{1}{2}$
Kent.....	$\frac{1}{4}$	Lee.....	2	Lombard.....	8
Kenton.....	$\frac{5}{16}$	Leesburg.....	$2\frac{1}{8}$	London.....	$8\frac{1}{2}$
Keystone.....	$\frac{3}{8}$	Leetonia.....	$2\frac{1}{4}$	Lorain.....	9
Kilbourn.....	$\frac{7}{16}$	Lena.....	$2\frac{3}{8}$	Lotta.....	$9\frac{1}{2}$
Kilgore.....	$\frac{1}{2}$	Lenox.....	$2\frac{1}{2}$	Louisville.....	10
Kimbolt.....	$\frac{9}{16}$	Lenton.....	$2\frac{5}{8}$	Lovelorn.....	$10\frac{1}{2}$
Kinder.....	$\frac{5}{8}$	Leroy.....	$2\frac{3}{4}$	Loveland.....	11
King.....	$1\frac{11}{16}$	Leslie.....	$2\frac{7}{8}$	Lovesick.....	$11\frac{1}{2}$
Kingston.....	$\frac{3}{4}$	Levanna.....	3	Lowell.....	12
Kinsman.....	$1\frac{13}{16}$	Level.....	$3\frac{1}{8}$	Lowland.....	$12\frac{1}{2}$
Kipton.....	$\frac{7}{8}$	Lewis.....	$3\frac{1}{4}$	Loyal.....	13
Kirby.....	$1\frac{15}{16}$	Lewiston.....	$3\frac{3}{8}$	Loyalist.....	$13\frac{1}{2}$
Kirkwood.....	1	Lexington.....	$3\frac{1}{2}$	Lyndon.....	14

## Telegraph and Cable Code

<b>Lyric</b> .....	14½	<b>Massillon</b> .....	31	<b>Milliner</b> .....	53
<b>Macedon</b> .....	15	<b>Maud</b> .....	32	<b>Millpond</b> .....	54
<b>Macerate</b> .....	15½	<b>Mayfield</b> .....	33	<b>Mimcry</b> .....	55
<b>Maderia</b> .....	16	<b>Meadow</b> .....	34	<b>Minaret</b> .....	56
<b>Madhouse</b> .....	16½	<b>Medina</b> .....	35	<b>Mincingly</b> .....	57
<b>Madison</b> .....	17	<b>Memphis</b> .....	36	<b>Mingler</b> .....	58
<b>Madman</b> .....	17½	<b>Mentor</b> .....	37	<b>Minion</b> .....	59
<b>Magnolia</b> .....	18	<b>Mercer</b> .....	38	<b>Minister</b> .....	60
<b>Magnum</b> .....	18½	<b>Mexico</b> .....	39	<b>Minstrels</b> .....	61
<b>Malta</b> .....	19	<b>Miami</b> .....	40	<b>Miocene</b> .....	62
<b>Malting</b> .....	19½	<b>Migrate</b> .....	41	<b>Miracle</b> .....	63
<b>Malvern</b> .....	20	<b>Mildew</b> .....	42	<b>Mirage</b> .....	64
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<b>Maple</b> .....	22	<b>Milepost</b> .....	44	<b>Mirthful</b> .....	66
<b>Marathon</b> .....	23	<b>Milestone</b> .....	45	<b>Mirthless</b> .....	67
<b>Marble</b> .....	24	<b>Militant</b> .....	46	<b>Mischief</b> .....	68
<b>Marcey</b> .....	25	<b>Milkboy</b> .....	47	<b>Misclaim</b> .....	69
<b>Marietta</b> .....	26	<b>Milkcan</b> .....	48	<b>Misfare</b> .....	70
<b>Marion</b> .....	27	<b>Milkmaid</b> .....	49	<b>Misplace</b> .....	71
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<b>Martin</b> .....	29	<b>Milkpail</b> .....	51		
<b>Mason</b> .....	30	<b>Milksop</b> .....	52		

## Ply

<b>Oaken</b> .....	1	<b>Ordeal</b> .....	8	<b>Orient</b> .....	15
<b>Oakland</b> .....	2	<b>Orderly</b> .....	9	<b>Orillon</b> .....	16
<b>Oberlin</b> .....	3	<b>Ordinance</b> .....	10	<b>Orison</b> .....	17
<b>Ogden</b> .....	4	<b>Oregano</b> .....	11	<b>Orniscope</b> .....	18
<b>Oldham</b> .....	5	<b>Organic</b> .....	12	<b>Orondo</b> .....	19
<b>Olive</b> .....	6	<b>Organist</b> .....	13	<b>Orphan</b> .....	20
<b>Ornate</b> .....	7	<b>Organize</b> .....	14	<b>Orthodox</b> .....	21



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